INSTRUCTION MANUAL (MDR-AHxxxx Series _Ver. 1.0)

H.264 Video Compression

Analog HD Digital Video Recorder

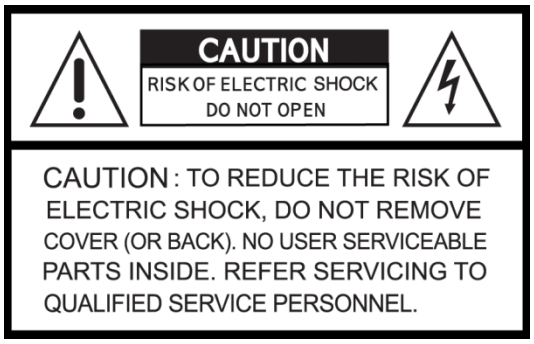
User Manual

About this user guide

Before installing and using this unit, please read this user guide carefully.

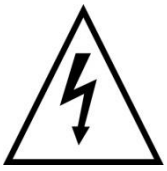
Be sure to keep it handy for later reference.

Safety Precautions


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Explanation of Graphical Symbols

This symbol indicates the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



This symbol indicates the presence of Uninsulated ”dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

WARNING

To reduce a risk of fire or electric shock, do not expose this product to rain or moisture.

CAUTION

Changes or modifications not expressly approved by the manufacturer may void the user’s authority to operate this equipment.

CAUTION

It is danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.

Discard used batteries according to the manufacturer’s instructions.

These precautions must be followed for safety reasons.

Warning

- Do not uses if the unit emits smoke, strange sounds are heard, or odor is emitted.
- Make sure the power cable is not damaged.
- Make sure there is no dust accumulation on the power plug or the outlet.
- Disassembly prohibited
- Do not place any foreign objects inside the unit.
- Do not place a container holding water or other liquids above the unit when it is connected to power.
- Do not allow the unit to get wet.
- Do not use during thunder/thunder storms.
- Do not place in an unstable position.
- Do not expose to shock or vibration.
- Do not use this unit in areas where it is exposed to the possibility of explosion.

Caution

- Do not pull on the power cable when removing the power plug from the outlet.
- Do not touch the power plug with wet hands.
- Do not sit on.
- Make sure the cables are connected properly.
- Do not place heavy objects on connected units.
- Never move this unit while the power is turned on.
- Remove the power plug from the outlet when the unit is going to remain unused for long periods of time.
- Do not block the cooling fans or air ducts.
- Do not expose to extreme temperatures or humidity changes.

Warning

Installation and servicing should be performed only by qualified and experienced personnel.

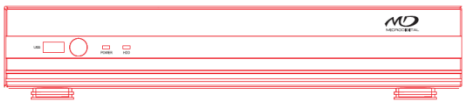
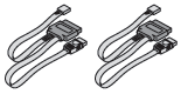
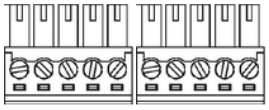
Turn off the power of the DVR when connecting cameras, audio or sensor cables.

The manufacturer is not responsible for any damage caused by improper use of the product or failure to follow instructions for the product.

The manufacturer is not responsible for any problems caused by or resulting from the user physically opening the DVR for examination or attempting to fix the unit. The manufacturer may not be held liable for any issues with the unit if the warranty seal is removed.

Product Components

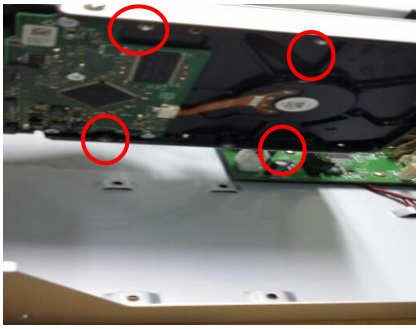
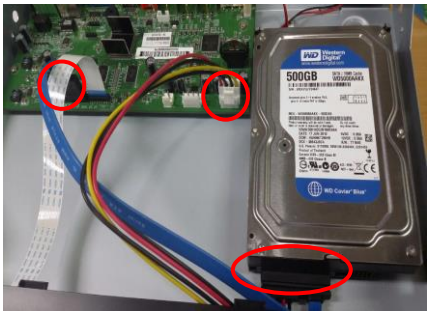
The package contains the main unit and its components as specified below. When you purchase the unit, Please check to ensure the components specified below are included.

DVR Set (4/8/16ch)	
Client Software CD	
Remote Control	
Battery1.5V (AAA x 2EA)	
Quick Guide	
HDD data power cable(SATA)	
HDD mounting bracket & Screw	/
HDD fixing screw	
Adaptor (DC12V 3A or 5A) & Power Cable	
Mouse	
Audio cable (16CH only) optional	
DIDO Terminal Block(2EA)	

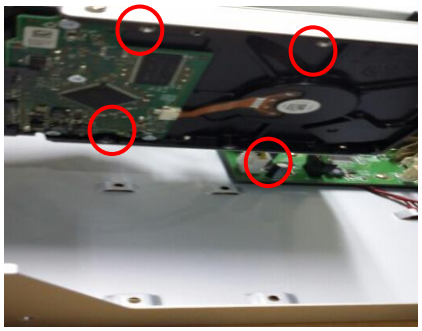
Mounting the HARD DISK (4/8/16ch)

Remove the screws and the top cover

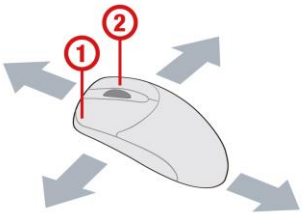
How to mount HDD x 1

		
1. Mount the HDD into bottom case as specified above	**2.** Mount the HDD into bottom case as specified above	**3.** Connect the HDD SATA and HDD power cable as specified above

How to mount HDD x 2

		
1. Mount the HDD into the mounting bracket as specified above	**2.** Mount the HDD into bottom case as specified above	**3.** Mount the HDD into bottom case as specified above
4. Connect the HDD SATA and HDD power cable as specified above		

Basic function of the MOUSE



①：Left button: SELECT function

②：Wheel: MOVEMENT function on a drop-down menu

Compatible HDD Models

제조회사	모델명	용량	SATA Type	RPM	BUFFER
Seagate	ST4000VM000-1F3168 [fw: SC25]	4 TB	SATA 3	5900 RPM	64 MB
	ST3000VX000-1CU166	3 TB	SATA 3	7200 RPM	64 MB
	ST3000VM002-1F316N [fw: SC25]	3 TB	SATA 3	5900 RPM	64 MB
	ST3000DM001 [fw: CC43]	3 TB	SATA 3	7200 RPM	64 MB
	ST3000DM001 [fw: CC24]	3 TB	SATA 3	7200 RPM	64 MB
	ST2000VM003-1CT164 [fw: SC23]	2 TB	SATA 3	5900 RPM	64 MB
	ST2000VM003	2 TB	SATA 3	5900 RPM	64 MB
	ST2000VM002	2 TB	SATA 2	5900 RPM	64 MB
	ST2000VX000-1CU164 [fw: CV22]	2 TB	SATA 3	7200 RPM	64 MB
	ST2000DL003	2 TB	SATA 3	5900 RPM	64 MB
	ST32000641AS	2 TB	SATA 3	7200 RPM	64 MB
	ST2000DM001	2 TB	SATA 3	7200 RPM	64 MB
	ST1000VX000	1 TB	SATA 3	7200 RPM	64 MB
	ST1000VM002 [fw: SC12]	1 TB	SATA 3	5900 RPM	64 MB
	ST1000DM003	1 TB	SATA 3	7200 RPM	64 MB
	ST31000524AS	1 TB	SATA 3	7200 RPM	32 MB
	ST31000322CS	1 TB	SATA 2	5900 RPM	8 MB
	ST31000526SV	1 TB	SATA 3	7200 RPM	32 MB
	ST31000524AS	1 TB	SATA 3	7200 RPM	32 MB
	ST31000340SV	1 TB	SATA 2	7200 RPM	32 MB
	ST31000528AS	1 TB	SATA 2	7200 RPM	32 MB
	ST1000VM002-1CT162 [fw: SC23]	1 TB	SATA 3	5900 RPM	64 MB
	ST3500312C8	500 GB	SATA 2	5900 RPM	8 MB
	ST500DM002	500 GB	SATA 3	7200 RPM	16 MB
	ST3500312CS	500 GB	SATA 2	5900 RPM	8 MB
	ST3500411SV	500 GB	SATA 3	7200 RPM	16 MB

	ST3500413AS	500 GB	SATA 3	7200 RPM	16 MB
	ST3500830SCE	500 GB	SATA 2	7200 RPM	8 MB
	ST3500418AS	500 GB	SATA 2	7200 RPM	16 MB
	ST3500410AS	500 GB	SATA 2	7200 RPM	16 MB
	ST3500312CS [fw: SC13]	500 GB	SATA 2	5900 RPM	8 MB
	ST250DM000	250 GB	SATA 3	7200 RPM	16 MB
	ST3250312CS	250 GB	SATA 2	5900 RPM	8 MB
	ST3250410AS	250 GB	SATA 2	7200 RPM	16 MB
	ST3250310SV	250 GB	SATA 2	7200 RPM	8 MB
	ST3250318AS	250 GB	SATA 2	7200 RPM	8 MB
	ST3160815AS	160 GB	SATA 2	7200 RPM	8 MB
HITACHI	HDS723020BLA642	2 TB	SATA 3	7200 RPM	64 MB
	HDS722020ALA330	2 TB	SATA 2	7200 RPM	32 MB
	HDS721010DLE630	1 TB	SATA 3	7200 RPM	32 MB
	HDS721010KLA330	1 TB	SATA 2	7200 RPM	32 MB
	HDT721010SLA360	1 TB	SATA 2	7200 RPM	16 MB
	HDS721010CLA332	1 TB	SATA 2	7200 RPM	32 MB
	HDS721050DLE630	500 GB	SATA 3	7200 RPM	32 MB
	HDS721050CLA362	500 GB	SATA 2	7200 RPM	16 MB
	HDP725050GLA360	500 GB	SATA 2	7200 RPM	16 MB
	HDS721032CLA362	320 GB	SATA 2	7200 RPM	16 MB
	HDS721025CLA382	250 GB	SATA 2	7200 RPM	8 MB
	HDT721025SLA380	250 GB	SATA 2	7200 RPM	8 MB
	HDP725025GLA380	250 GB	SATA 2	7200 RPM	8 MB
Western Digital	WD40PURX-64GVNY0 / WD40EURX-64WRWY0	4 TB	SATA 3		64 MB
	WD30EURS-63SPKY0	3 TB	SATA 2	5400 RPM	64 MB
	WD30EZRX-00MMM	3 TB	SATA 3	5400 RPM	64 MB
	WD30EURS-63R8UYO	3 TB	SATA 2	5400 RPM	64 MB
	WD30PURX-64P6ZY0 / WD30EURX-64HYZY0	3 TB	SATA 3		64 MB
	WD20PURX-64P6ZY0 / WD20EURX-64HYZY0	2 TB	SATA 3		64 MB
	WD20EURS-63SPKY0	2 TB	SATA 2	5400 RPM	64 MB
	WD20EURX-63T0FY0	2 TB	SATA 3	5400 RPM	64 MB
	WD20EARS	2 TB	SATA 2	5900 RPM	64 MB
	WD20EARX-00PASB0	2 TB	SATA 3	5900 RPM	65 MB
	WD20EADS	2 TB	SATA 2	5400 RPM	32 MB
	WD20EURS	2 TB	SATA 2	5400 RPM	64 MB
	WD10EZEX-00RKKA0	1 TB	SATA 3	7200 RPM	64 MB

	WD10PURX-64D85Y0 / WD10EURX-64RPPY0	1 TB	SATA 3		64 MB
	WD10EURX-63FH1Y0	1 TB	SATA 3	5400 RPM	64 MB
	WD10EZRX-00A8LB0	1 TB	SATA 3	5400 RPM	64 MB
	WD10EARS-00Y5B1	1 TB	SATA 3	5400 RPM	64 MB
	WD10EVDS-63U8B1	1 TB	SATA 3	7200 RPM	32 MB
	WD10EALX-229BA1	1 TB	SATA 3	7200 RPM	32 MB
	WD10EALX-009BA0	1 TB	SATA 3	7200 RPM	32 MB
	WD10EVVS	1 TB	SATA 2	5400 RPM	8 MB
	WD10EACS	1 TB	SATA 2		16 MB
	WD10EUCX	1 TB	SATA 3		16 MB
	WD10EURS-630AB1	1 TB	SATA 2	5900 RPM	64 MB
	WD5000AAKX-00ERMA0	500 GB	SATA 3	7200 RPM	16 MB
	WD5000AVCS-632DY1	500 GB	SATA 2	5400 RPM	32 MB
	WD5000AAKX-221CA1	500 GB	SATA 2	7200 RPM	16 MB
	WD5000AAKX-001CA0	500 GB	SATA 3	7200 RPM	16 MB
	WD5000AVCS	500 GB	SATA 2		16 MB
	WD5000AACS	500 GB	SATA 2	5400 RPM	16 MB
	WD2500AVVS-63L2B0	250 GB	SATA 3		
	WD2500AAKX	250 GB	SATA 3	7200 RPM	16 MB
	WD2500AVVS	250 GB	SATA 2		8 MB
	WD2500AAKS	250 GB	SATA 2	7200 RPM	16 MB
TOSHIBA	HDS723020BLE640 / DT01ACA200	2 TB	SATA 3	7200 RPM	64 MB
	DT01ABA200V	2 TB	SATA 3	5700 RPM	32 MB

NOTICE

The brands and models of all HDD should be the same. If the brands and models of each HDD are different with others, the DVR may not recognize HDD.

Specifications

Please note that specifications and unit exterior design are subject to change without notification

MODEL				4CH	8CH	16CH
Description				960H / AHD 2.0 (720p & 1080p) Hybrid DVR		
Video	Input	Number of Channels		4	8	16
		Camera		720p25/30/50/60, 1080p25/30 or NTSC/PAL		
	Output	Main Monitor		HDMI and VGA(Max. 1920x1080)		
		Sub Monitor		CVBS or SPOT	CVBS and SPOT	
Audio	Input / Output			4 / 1		
	Audio Codec			G.711		
Alarm	Sensor Input			4		
	Alarm Output			1		
	RS-485			1		
Recording	Compression			H.264 (Main Profile)	H.264 (High Profile)	
	1920x1080 Camera Input		1920x1080	15fps/ch		
			1920x540	15fps/ch		
			1280x720	15fps/ch		
			640x360	15fps/ch		
	1280x720 AHD Camera Input (PAL/NTSC)		1280x720	25/30fps/ch		
			640x360	25/30fps/ch		
	Analog Camera Input (PAL/NTSC)		960H	25/30fps/ch		
			D1	25/30fps/ch		
			CIF	25/30fps/ch		
	Recording Quality Grade			5 Levels		
	Recording Mode			Continuous / Motion / Sensor / Schedule / Manual		
	Pre Recording			Max. 20 Minutes		
	Post Recording			Max. 60 Seconds		
Playback	Search			Date/Time, Event, Archive, Log		
	Multi-Decoding			1, 4	1, 4, 8	1, 4, 9, 16
	Playback Speed			x0.25, x0.5, x2, x4, x8, x16, x32 & x64		
Backup	Media			USB drive, External HDD, Network		
	Format			BMP, AVI, Proprietary Format		
	Huge Backup			Yes (Max. 24 hours)		
Storage	HDD		Capacity of 1 HDD	4TB		
			Internal HDDs	2	2	2

		e-SATA	None	
	USB	Front	1	
		Rear	1	
User I/F	Input Method		IR, Mouse, Keyboard Controller	
Network	Network Interface		10/100 Base-T	10/100/1000 Base-TX
	Dynamic DNS		Yes (Free DDNS)	
	Dual Encoding for Network		Yes	
Features	Digital Zoom		Yes	
	DLS (Day Light Saving)		Yes	
	NTP (Network Time Protocol)		Yes	
	S.M.A.R.T		Yes	
	Internal Beep		Yes	
	Multi-Language		Yes	
	e-mail Notification		Yes	
Network Access	Mobile		iPad / iPhone / Android	
	Web Viewer		Windows (IE, Chrome, Firefox, Safari)	
	PC Client		Single / Multi Client and CMS (64 channels)	
	Remote Setup and Upgrade		Yes	
Power	Power Supply Voltage		DC 12V 5A	
Temperature	Operation		5°C ~ 40°C	
	Storage		-10°C ~ 50°C	
Humidity	Operation		20% ~ 80% (Non-condensing)	
Weight	Unit Weight (Gross weight)		4.1Kgs (6.0Kgs)	
Dimension	Unit Dimension (W x H x D)		380mm x 340mm x 72mm	

Please note that specifications and unit exterior design are subject to change without notification

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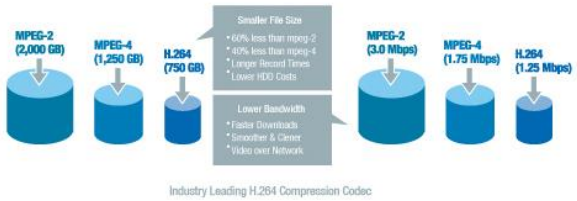
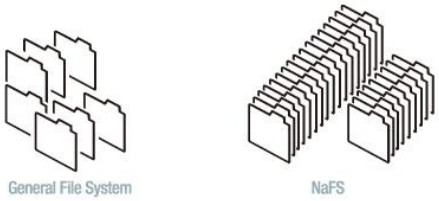
1. Main Features

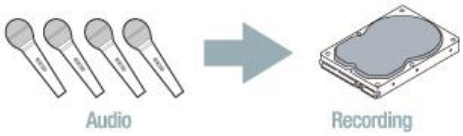
- All Video input is detected automatically(Analog / 960H / AHD 720p / AHD 1080p)
- H.264 Video compression



- Reliable File system



- HDMI & VGA Output
- 4 channel audio recording



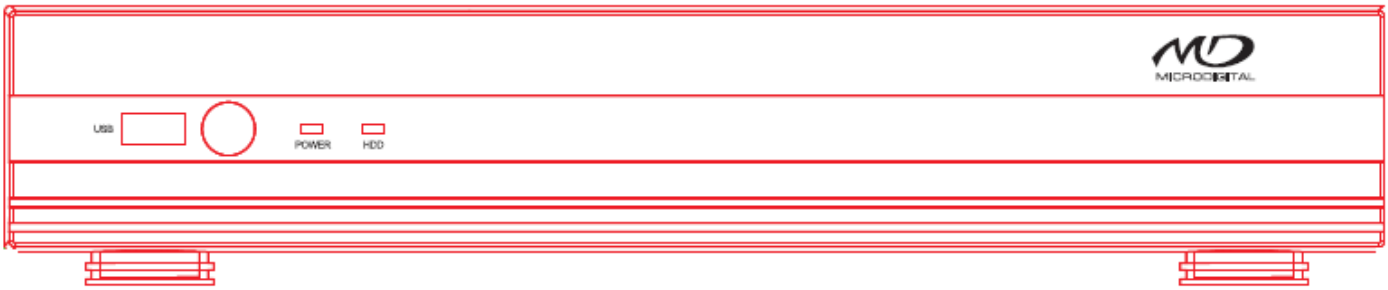
- Individual channel operation
- Motion detection
- Automatic video input and video loss detection
- Covert camera operation provides enhanced security
- Built-in PTZF camera control
- Easy and simple user interface
- Easy scheduler
- Easy software upgrade

  Instant and convenient backup via USB flash drive, network
- Exclusive file format backup
- AVI backup
- Various ways of network access via Network client software, Web-viewer, CMS, UMS(Multi-site monitoring software) and Mobile Viewer

2. Name, Function and Connection

2-1. Front Panel

The following information will help you to operate the front panel controls.



4/8/16 CH

Name	Description
POWER	LED light is on when power is applied to the system.
HDD	LED light is on when the system is recording video data.
USB port	There is a USB port located on the left side of the front panel. This USB port is used to archive footage into a USB storage device. (USB 2.0 connector)

2-2. Rear Panel

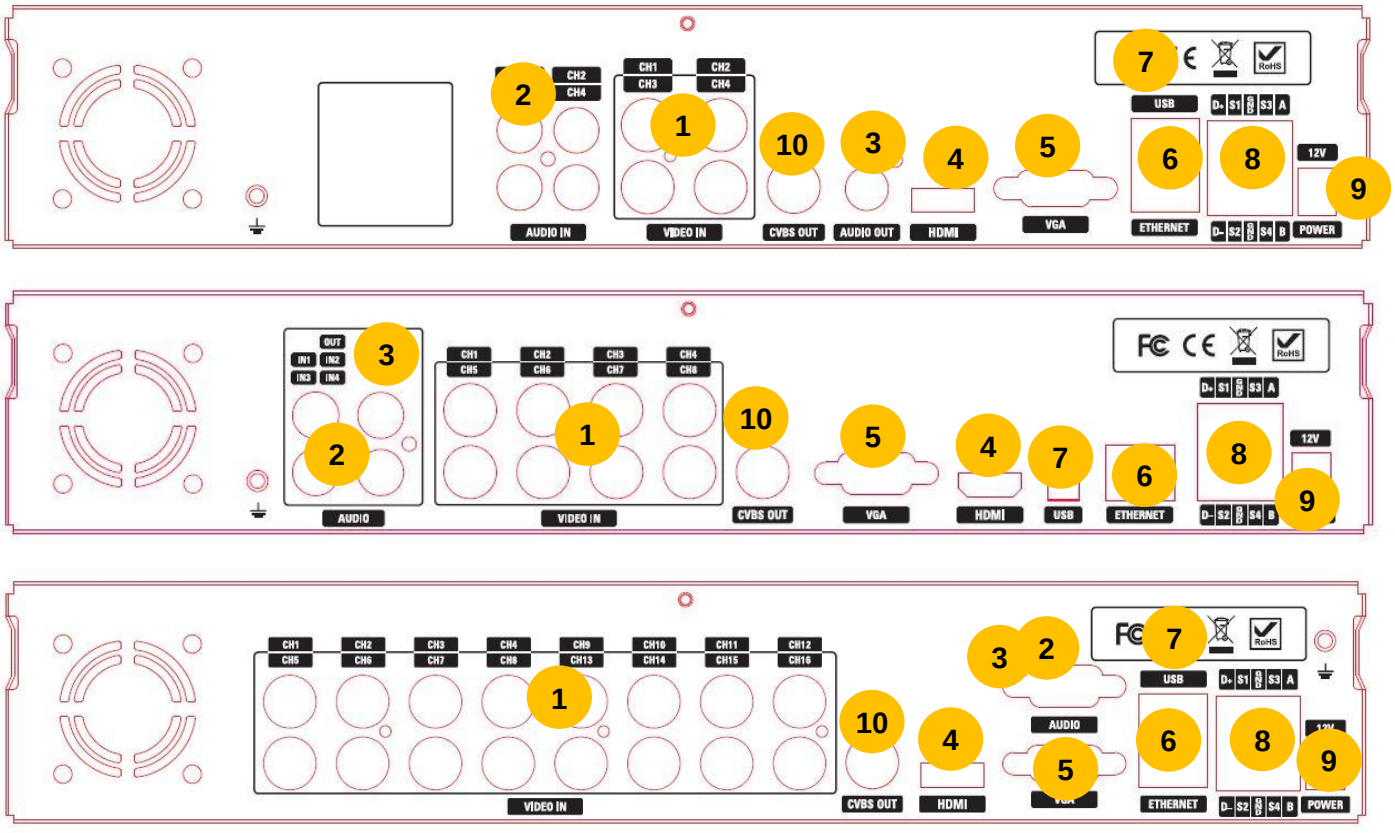


Table 2.2.1. Rear panel connections

NO	Connection	Purpose
1	**VIDEO IN**	connectors for video input. (960H & Analog HD)
2	**AUDIO IN**	4 connectors for audio input.
3	**AUDIO OUT**	1 connector for audio output.
4	**HDMI OUT**	HDMI connectors for main video output.
5	**VGA OUT**	Connector for VGA monitor.
6	**ETHERNET**	RJ-45 Connector for LAN Connection, used for Internet Connection.
7	**USB Port**	USB terminal for video export or firmware upgrade
8	**SENSOR IN**	4 connectors for sensor device connection.
	ALARM OUT	1 connector for alarm device connection. Provides simple On/Off switching by using relay. 0.5A/125V, 1A/30V
	RS-485	RS-485 control terminal (+, -)
9	**POWER SOCKET**	DC 12V Input terminal
10	**CVBS OUT**	CVBS OUT , SPOT OUT

2-3. Remote control

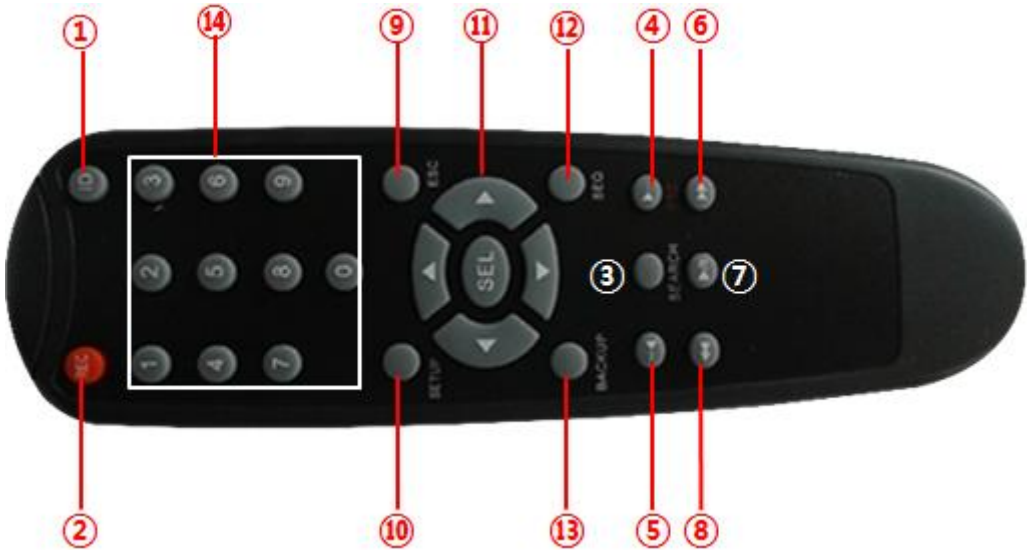


Figure 2.3.1. Remote Controller Button

① ID: To set the remote control ID.

② REC: To start and stop manual recording

③ SEARCH: To go to SEARCH menu.

④ F/ADV:

- During playback – To move the playback position 60 seconds forward .
- During Pause – To move the playback position moves 1 frame forward

⑤ F/REW:
- During playback – To move the playback position 60 seconds back.
- During Pause – To move the playback postion 1 frame back.

⑥ FF: To fast forward the recording.

⑦ PLAY/PAUSE: To play or to pause the recording in playback mode

⑧ REW: To rewind the recording.

⑨ ESC:
- During setup – To retun to the preivous menu screen.
- During Playback – To exit playback mode
- System lock – To lock a system when pressing ESC button for 5 seconds.
- System unlock – To unlock a system when pressing ESC button for 5 seconds.

⑩ SETUP: To open the SETUP menu.

⑪ Direction buttons: To move menu items or select a channel.

⑫ SEQ: To start auto sequencing the screen in full screen mode. (Toggle)

⑬ BACKUP: To start a backup operations in live or playback mode

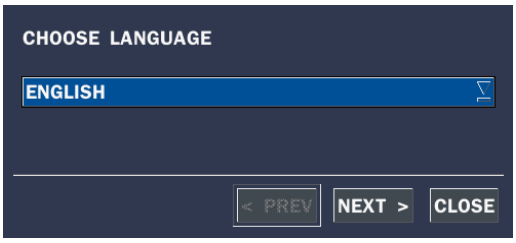
⑭ 0~9: To select channel (1,2,3,..) or to enter a DVR ID number or use as number key.

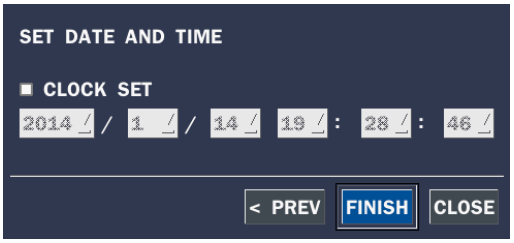
3. Setting up the DVR

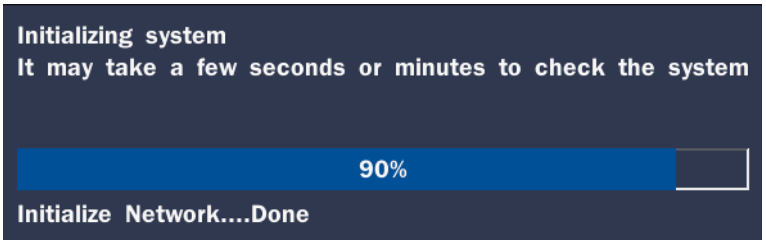
The following sections detail the initial setup of a DVR.

3-1. Setup – Main Screen

When booting a system at first, the following messages display. After initializing, select a language and set the time.







To enter the setup menu, select a right button of the mouse or press the SETUP button on the remote control.

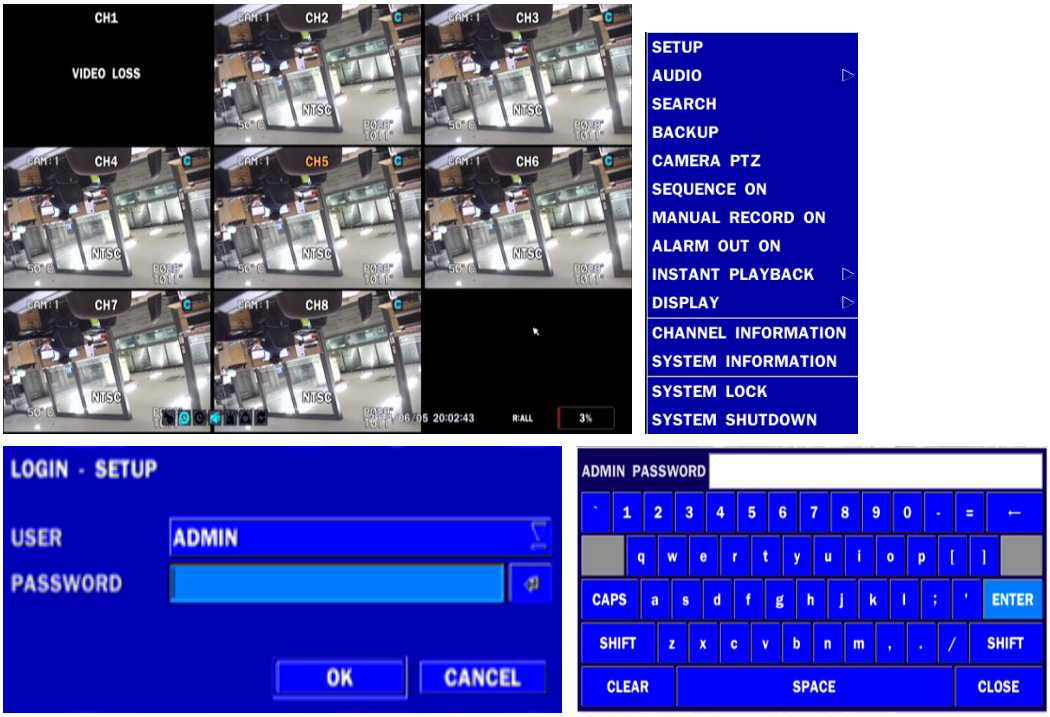


Table 3.1.1. Setup menu tree

When the DVR prompts the LOG-IN window, enter the PASSWORD using the virtual keyboard, or the front panel, or the remote control. The factory default password is 1111. It is highly recommended to assign a new password to protect the system. User can assign a new password in SECURITY setup menu

CONTROL BAR SHOW: Set to hide automatically or display continuously a control bar on the bottom side in a live mode.

CHANNEL INFORMATION: Display a channel number, channel name, resolution, frame rate, quality and recording type of each channel.

SYSTEM INFORMATION: Display a software version, storage size, network type, IP address, MAC address, DDNS status, DVR ID and remote controller ID of the system.

SYSTEM LOCK: To lock the system, user input a password. To unlock the system, please press ESC button for 5 seconds on a front panel or a remote control. You can also unlock the system when pressing LOCK icon on the screen using a mouse control. Then, the system will ask a password.

3-1-1. Setup – MENU TREE

- DISPLAY
  - OSD
  - OSD CONTRAST
  - SEQUENCE
  - SEQUENCE DWELL TIME
  - CHANNEL

            - NAME
            - COVERT
            - BRIGHTNESS
            - CONTRAST
            - HUE
            - SATURATION
    - MAIN OUTPUT RESOLUTION
    - SUB MONITOR OUTPUT(CVBS/SPOT)
- RECORD
    - CHANNEL
            - RESOLUTION
            - FRAME RATE
            - QUALITY
            - RECORDING
            - SENSOR RECORDING
            - PRE RECORD
            - POST EVENT RECORD
            - AUDIO
            - SCHEDULE
- DEVICE
    - ALARM OUT
            - ALARM DURATION
    - CONTROLLER & PTZ
            - CONTROLLER
                - SPEED
                - ID
            - CHANNEL
                - CAMERA
                - SPEED
                - ID
    - CHANNEL
            - MOTION ZONE
            - MOTION SENSITIVITY
    - KEY TONE
    - REMOTE CONTROLLER ID
    - SENSOR
            - TYPE
- STORAGE
    - OVERWRITE
    - DISK FORMAT
    - DISK INFO

- RECORDING LIMIT
    - RECORDING LIMIT DAYS

- SYSTEM
  - DVR-ID
  - DESCRIPTION
  - LANGUAGE
  - DATE FORMAT
  - SET DATE & TIME
    - TIME DISPLAY FORMAT
    - TIME ZONE
    - DAYLIGHT SAVING
    - SET DATE & TIME
  - CLIENT ACCESS
  - NTP
  - SEND EMAIL
  - SYSTEM EVENT NOTIFICATION
- SECURITY
  - USER AUTHENTICATION
  - USER NAME
  - USER PASSOWRD
  - PLAYBACK AUTHORITY
  - NETWORK LIVE AUTHORITY
  - NETWOR PLAYBACK TIMEOUT
- NETWORK
  - PORT
  - NETWORK AUDIO PORT
  - WEB PORT
  - NETWORK TYPE (DHCP, STATIC)
    - IP
    - SUBNET MASK
    - GATEWAY
    - DNS(PRIMARY)
    - DNS(SECONDARY)
  - DDNS
    - OFF
    - DDNS SERVER 1
    - DDNS SERVER 2
    - DDNS SERVER 3
  - NETWORK STREAM
    - RESOLUTION
    - FRAME RATE

- QUALITY

– WIRELESS LAN

■ CONFIG

– SAVE SETUP TO A USB

– LOAD SETUP FROM A USB

– LOAD DEFAULT

– LOAD FACTORY DEFAULT

– SOFTWARE UPGRADE

3-2. Setup – Display Mode

In the SETUP menu, select the DISPLAY tab. Then, the DISPLAY menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control. To return to the previous setup menu screen, press the ESC button.

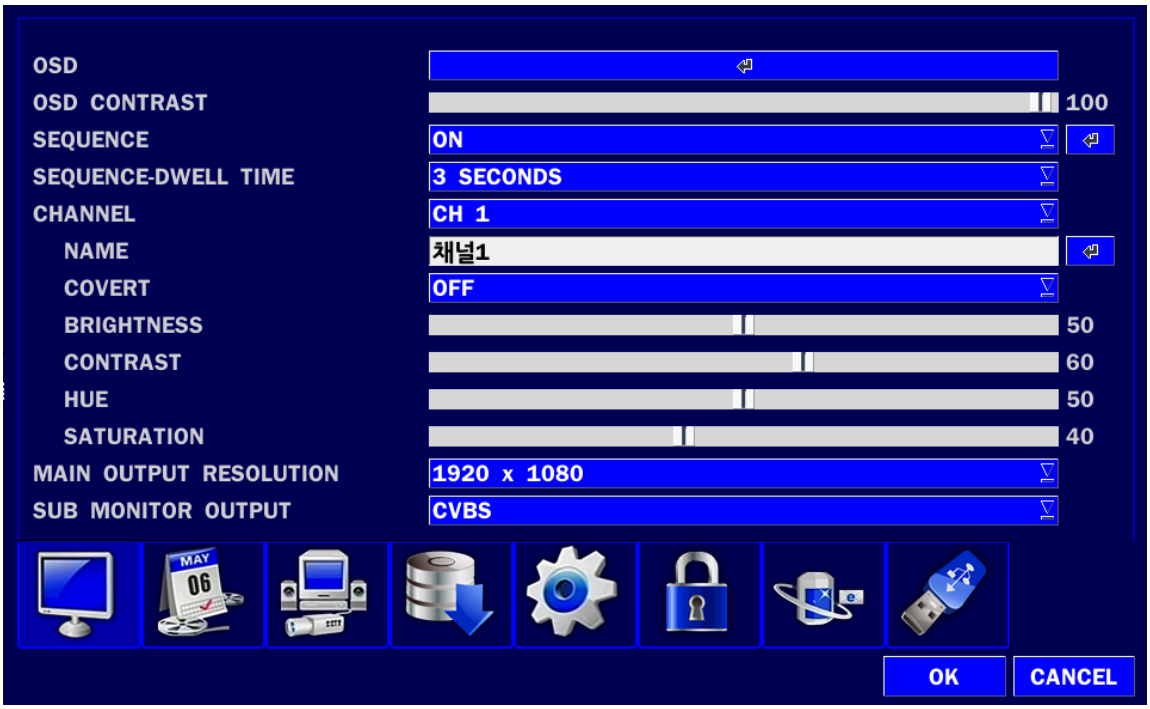
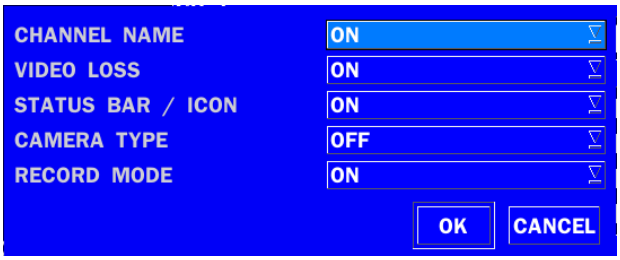


Figure 3.2.1. Display mode setup screen

Table 3.2.1. Menu items in DISPLAY mode setup

Item	Description
OSD	Enable/disable on-screen-display. 
OSD CONTRAST	Set the transparency level of the On Screen Display (OSD) (50~100)

SEQUENCE	Enable/disable sequential display of video in full screen mode.
SEQUENCE-DWELL TIME	Set the dwell time of each, single channel display in sequential display mode (3~60seconds)
CHANNEL	Select a channel to apply the name and covert settings change using the mouse or the remote control. Select a channel to apply the following settings using the mouse
NAME	Set the channel name. Press the right square button and set the channel name and select OK using the mouse. The name can be made up to 10 characters.
COVERT	Enable/disable display of the specified video channel in live display mode.
BRIGHTNESS	Change the brightness value of the specified channel. (0~100)
CONTRAST	Change the contrast value of the specified channel. (0~100)
HUE	Change the hue value of the specified channel. (0~100)
SATURATION	Change the saturation value of the specified channel. (0~100)
MAIN OUTPUT RESOLUTION	Select 1280x720 or 1920x1080.
SUB MONITOR OUTPUT	CVBS or SPOT output.

3-3. Setup – Recording Mode

In the SETUP menu, select the RECORD tab. Then, the RECORD menu is displayed as pictured below.

Navigate through the menu items or change the settings using the mouse or the remote control.

Figure 3.3.1. Recording mode setup screen

Table 3.3.1. Menu items in Recording mode setup

Menu item	Description
CHANNEL	Select a channel for applying the following settings using the mouse or the remote control. To change the values of all channels, take the following steps. Select the button ⏎ to change the values of all channels. (RESOLUTION, FRAME RATE, QUALITY, RECORDING, PRE RECORD, POST EVENT RECORD and AUDIO)
RESOLUTION	Select 1920x1080, 1920x540, 1280x720, 640x360 using the mouse or the remote control.
FRAME RATE	Set the frame rate for the specified channel. The sum of the frame rate values from each channel cannot exceed the maximum frame rates for a specific recording resolution.
QUALITY	Select the recording quality for the specified channel. Options are: LEVEL 1 (Low), 2, 3, 4 and 5 (High)
RECORDING	Assign the recording mode for each channel. Options are: Continuous, By Motion, By Sensor, By Schedule or Disable.
SENSOR	Select the sensor setting for the selected channel.

RESOLUTION FRAME RATE QUALITY RECORDING PRE RECORD POST RECORD AUDIO
ALL 1280x720 15 FPS LEVEL 4 CONTINUOUS 1 MIN(S) 10 SEC(S) OFF
1 1280x720 15 FPS LEVEL 4 CONTINUOUS 1 MIN(S) 10 SEC(S) OFF
2 1920x1080 15 FPS LEVEL 4 CONTINUOUS 1 MIN(S) 10 SEC(S) OFF
3 1920x1080 15 FPS LEVEL 4 CONTINUOUS 1 MIN(S) 10 SEC(S) OFF
4 1920x1080 15 FPS LEVEL 4 CONTINUOUS 1 MIN(S) 10 SEC(S) OFF
OK
CANCEL

RECORDING	
PRE RECORD	Enable/disable pre-event recording. Options are: OFF, 15 seconds, 30 seconds, 1 minute, 3 minutes and 20 minutes.
POST EVENT RECORD	Set the post event recording time duration for the specified channel. (10~60 seconds)
AUDIO	Enable/disable audio recording for the specified channel.
SCHEDULE	Set the recording schedule. Press SEL to go to schedule setup screen.

3-3-1. Recording Schedules

To setup a recording schedule, select SCHEDULE in the RECORD menu. Navigate through the menu items or change the settings using the mouse or the remote control.

[**Channel**]: Select the specific channel.

[**Setup**]: Set up using the left button of the mouse to section under the specific day and time. It can set the all section under the specific day or time at a time when pressing the specific day or time. It is also possible to set up recording modes of various type using a Continue (green color), Motion (yellow color) and Sensor button (red color). It can set easy using a drag-and-drop function of a mouse control.

[**COPY Schedule]**: Set the channel 1 schedule and select the square button of CH2 in COPY SCHEDULE section using the mouse. And, press the COPY button. Then the CH1 schedule is copied to CH2. To remove the setting value, press the CLEAR button.

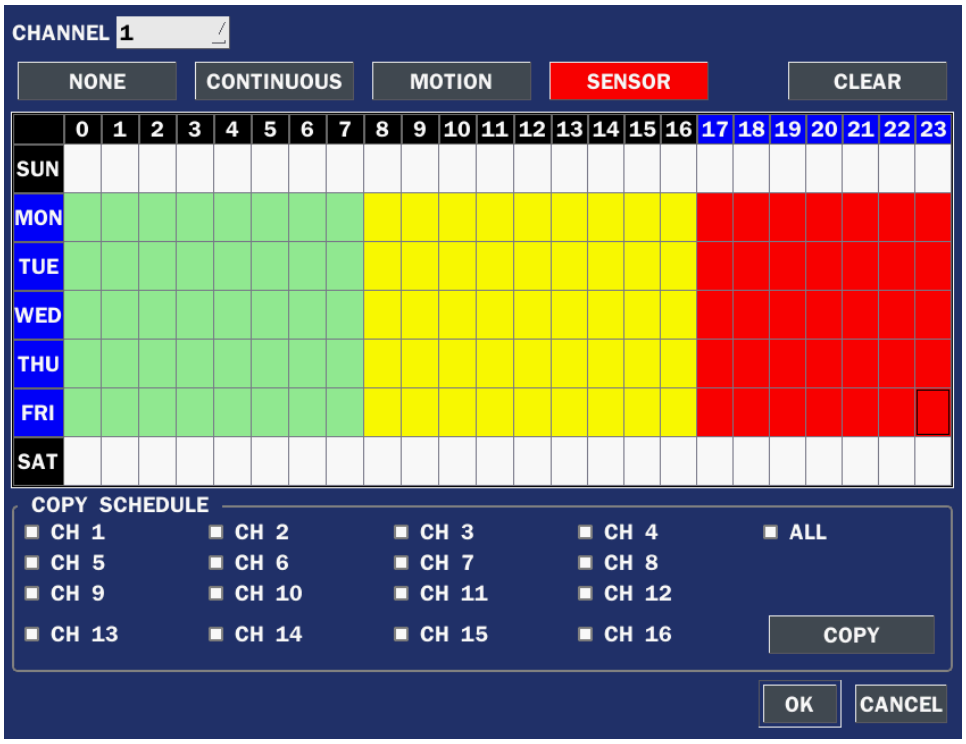


Figure 3.3.1.1. Schedule recording setup screen

3-4. Setup – Device Mode

In the SETUP menu, select the DEVICE tab. Then, the device menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control.

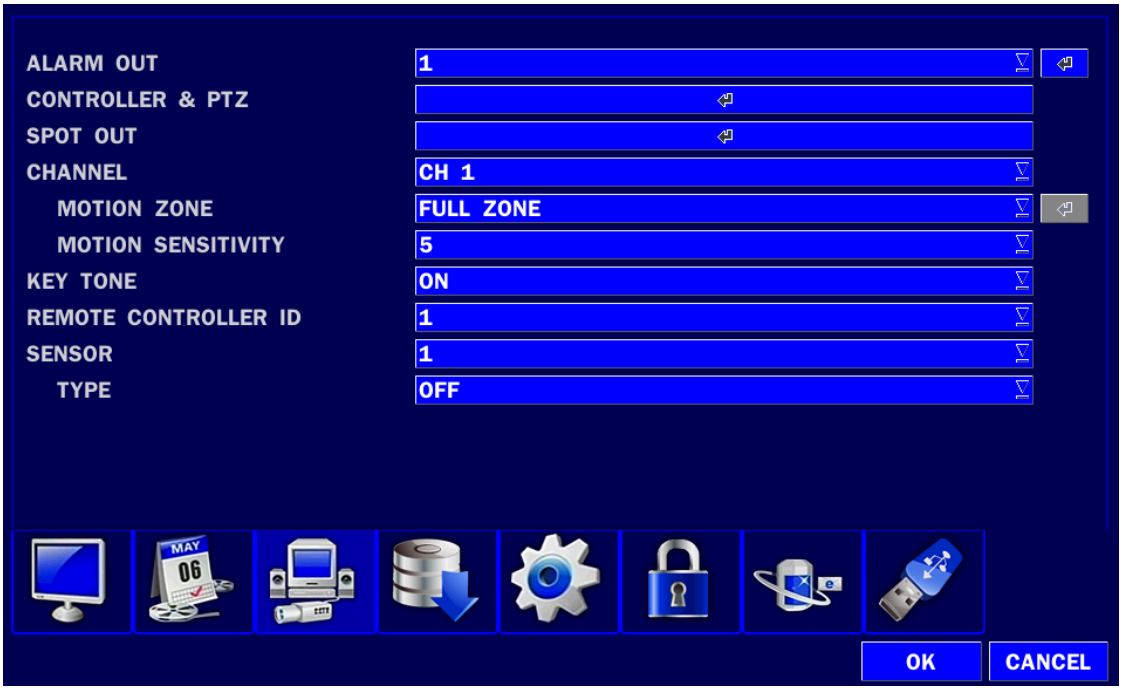
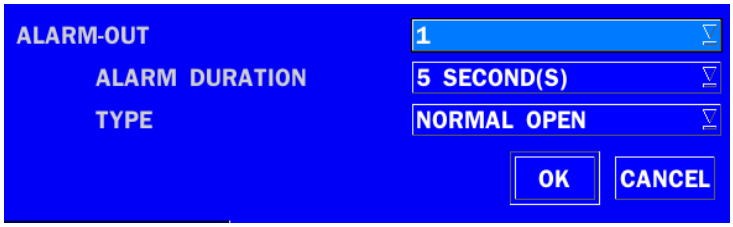
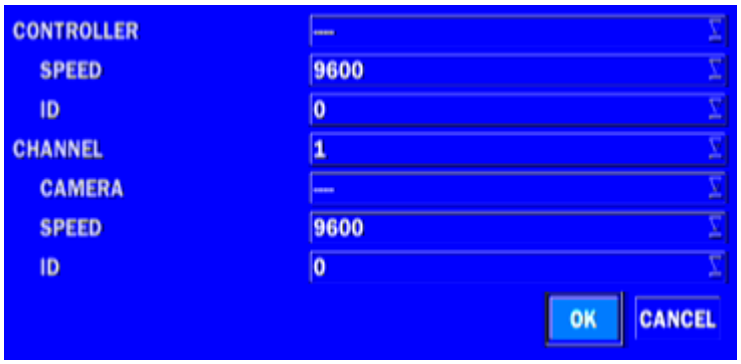


Figure 3.4.1. Device mode setup screen

Table 3.4.1. Menu items in Device Setup screen

Item	Description
ALARM OUT	Only one Alarm-out is available.
/ALARM DURATION	Set alarm dwell time from 5 to 60 seconds or infinite.
CONTROLLER & PTZ	Set the controller and PTZ camera speed, number, type and ID.
CHANNEL	Select specified channel for motion zone setup.
MOTION ZONE	Select either Full Zone or Partial Zone for motion detection.
MOTION SENSITIVITY	Set the motion sensitivity for the selected channel. Control the motion sensitivity from 1 to 9. (9 – Highest sensitivity, 1 – Lowest sensitivity)
KEY TONE	Enable/disable key tone from front panel usage.



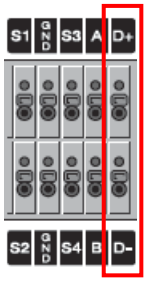


REMOTE CONTROL ID	Set the remote control ID. 1. Select ID. 2. Input the remote control ID number. 3. An icon will indicate on the Live Screen if the remote control ID is synchronized. The options are from 0 to 99
SENSOR	Select the type of each sensor.
TYPE	Set the type of sensor for the specified channel. Options are: OFF, N/O (normal open), and N/C (normal closed).

3-4-1 Controller & PTZ Setup

To control the PTZ functions of the camera, connect the PTZ controller to the RS-485 port on the back of the chassis with CAT5 (or equivalent) cable.

① Connect the RS-485 cables of PTZ camera to the RS-485 port on the rear panel.



② Press the Controller & PTZ menu button. Then PTZ menu screen is displayed.

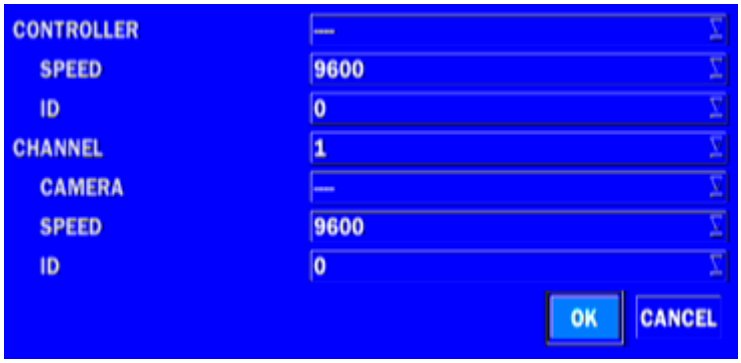


Figure 3.4.1.1. Controller & PTZ Setup Screen

Note: Connect PTZ cameras that support RS-485 directly to the RS-485 port. If the camera is controlled through an RS-232C interface, use an RS-232C to RS-485 to RS-232C signal converter.

Use the PTZ setup screen to select the following options for the camera PTZ controller:

- **CHANNEL**: Channel connected to a PTZ device
- **CAMERA**: Protocol Type
- **SPEED:** 19200, 14400, 9600, 4800, 2400 (Baud rate)
- **ID:** 0-63

Controller (Keyboard Controller): If a PTZ controller is used, select a controller protocol from Controller menu. Set SPEED (Baud Rate) and ID number.

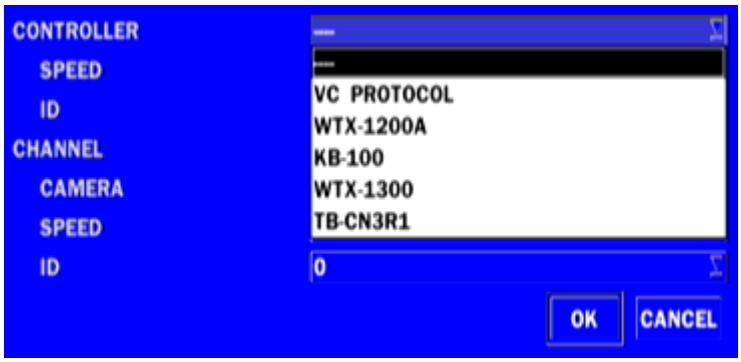


Figure 3.4.1.2. Controller Selection Screen

3-4-2. Motion Zone Setup

Select MOTION ZONE using the mouse or the remote control and select either PARTIAL ZONE or FULL ZONE using the mouse control. The default value is FULL ZONE.

If FULL ZONE is selected, the motion setting screen is not displayed. Only set the level of sensitivity for MOTION SENSITIVITY.

FULL ZONE: The motion sensor is active on the whole screen.

PARTIAL ZONE: The motion sensor is active in the set detection frame.

Select the motion detection position using the mouse or the remote control. Then left click on the mouse or left click and drag the mouse pointer to select or deselect the area. Highlighted area indicates the partial motion detection zone. Press the ESC button or right click on the mouse to return to the previous menu

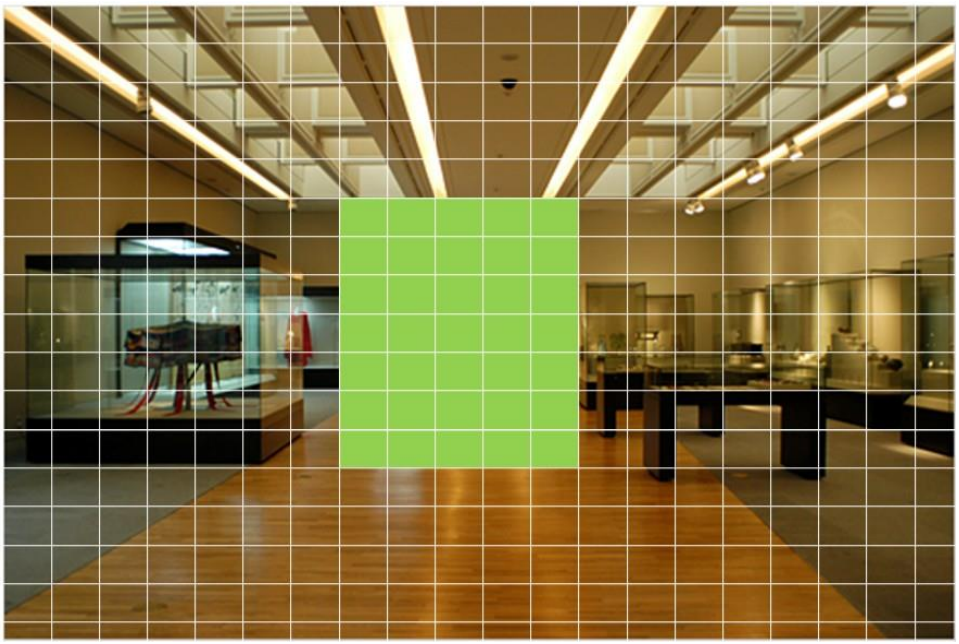


Figure 3.4.2.1 Motion Zone selection screen

3-5. Setup – Storage Mode

In the SETUP menu, select the STORAGE tab. Then, the STORAGE menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control.

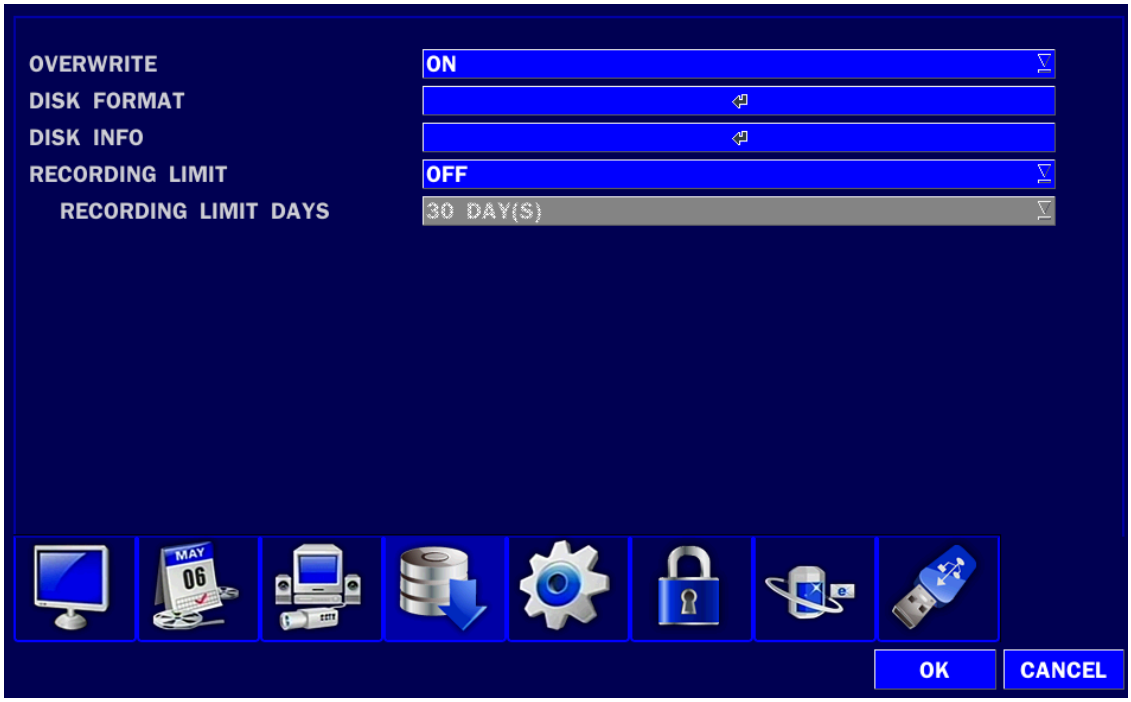


Figure 3.5.1. STORAGE setup screen

Table 3.5.1. Menu items in STORAGE Setup screen

Item	Description
OVERWRITE	When enabled, the DVR will continue recording and overwrite the oldest existing recorded data once the hard drive is full. When disabled, recording will stop once the hard drive is full.
DISK FORMAT	You will have an option of YES or NO for formatting the Hard Drive. After formatting HDD, the DVR will reboot. **Caution: It is recommended to archive any data that you may need in the future before formatting the hard drive.**
DISK INFO	Hard drive information Displays the following information;

RECORDING LIMIT	Enable/disable recording limit.
RECORDING LIMIT DAYS	Set the recording limit days. (1- 90 days) If the RECORDING LIMIT DAYS are set to 1, the data will be overwritten after 24 hours.

3-6. Setup – System Mode

In the SETUP menu, select the SYSTEM tab. Then, the SYSTEM menu is displayed as pictured below. Navigate through the menu items using the mouse or the remote control and change the value of the menu

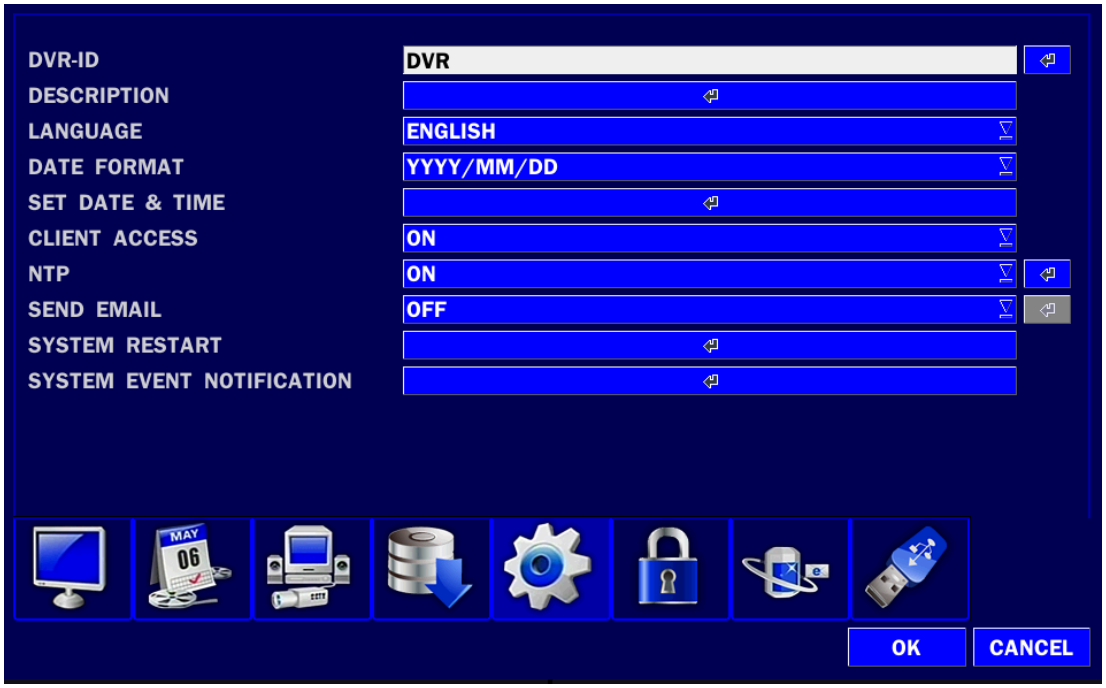
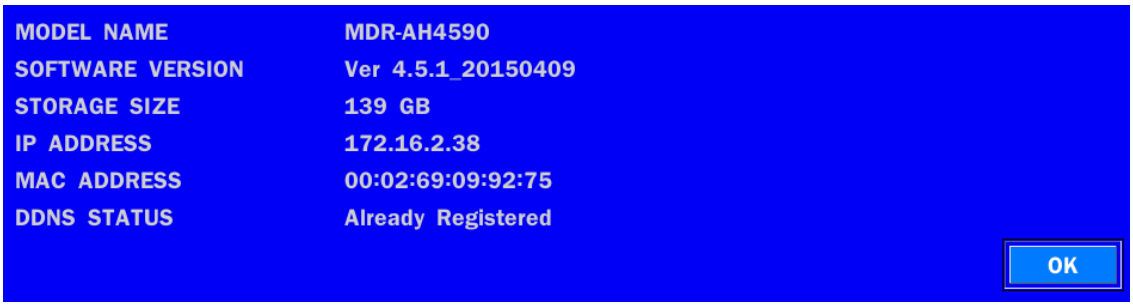


Figure 3.6.1. SYSTEM Setup Screen

Table 3.6.1. Menu items in SYSTEM Setup screen

Item	Description
DVR ID	Name the DVR (e.g. Factory, Library, Store, Location etc) This is to used to identify the name of each DVR under the same network.
DESCRIPTION	Press the button to view the system information. (Software Version, Storage Size, IP Address, MAC Address and DDNS Status) 
LANGUAGE	Select the display language using the mouse or the remote control. Once a language is selected, the display language will change. (English, Korean, SP Chinese, Japanese, Polish, Portuguese, Turkish, Russian, Croatian, Greek, German, Italian, Spanish, French, Thai, Farsi, Danish, TR Chinese, Finnish, Czech, Dutch and so on)
DATE FORMAT	Select the date display format using the mouse or the remote control. Options are: (YYYY/MM/DD, MM/DD/YYYY, DD/MM/YYYY, YYYY-MM-DD, MM-DD-YYYY, DD-MM-YYYY)
SET DATE&TIME	Select the display date and time using the mouse or the remote control and press OK button to set the present date and time.

DAY LIGHT SAVING

Select DAYLIGHT SAVING using the mouse or the remote control and select the appropriate daylight saving time zone.

If choosing EU or OTHERS, set the applicable conditions.

The options are: **OFF** / **USA** / **EU** / **OTHERS**

OFF: Daylight saving is turned off.

USA: Applies the USA daylight saving time.

EU: Applies the EU daylight saving time.

- Select the GMT AREA using the mouse or the remote control.
- Set the time difference with the standard time using the mouse or the button.

OTHERS: If the time zone is neither USA nor EU, set the date and time of the daylight saving period.

- Select BEGIN or END using the remote and press the SEL button.

Caution

- Do not set the start time to 23:00 for DLS.
- DLS cannot be applied if the date of BEGIN and END is the same.

CLIENT ACCESS	Enable/Disable remote access through the network.
NTP	NTP (Network Time Protocol) which synchronizes the time of the computer systems over variable-latency data networks.

PRIMARY SNTP SERVER: Input the address of the primary NTP time-server.

SECONDARY SNTP SERVER: Input the address of the secondary NTP time-server.

TIME ZONE: NTP synchronizes with GMT (Greenwich Mean Time) regardless of Geography user must set their own time difference.

CONNECTON MODE: Select the NTP time-server connection mode from TIME, INTERVAL, and ONCE.

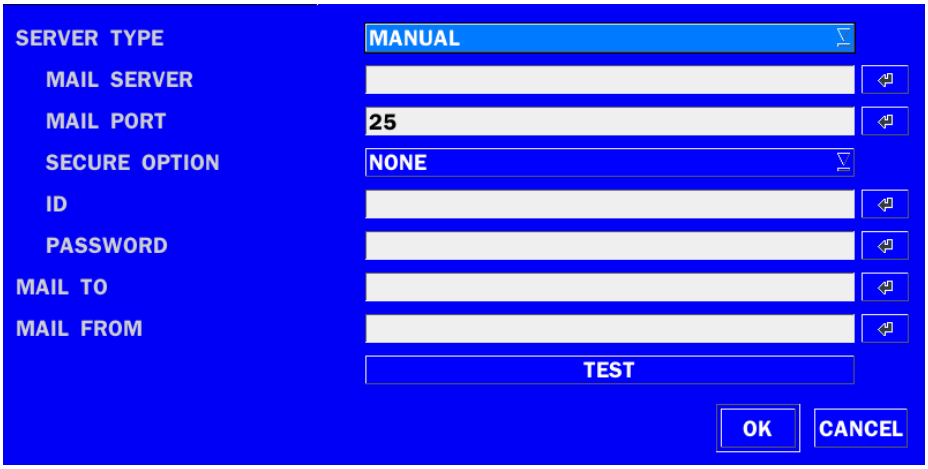
CONNECTION PERIOD

- **TIME –** Refresh the time at the designated time (e.g. 1AM)
- **INTERVAL –** Every 1 hour ~ 24 hours
- **ONCE –** Synchronizes time only once. NTP will not synchronize unless the Connection Mode is changed.

DVR sends E-MAIL Notification when the NTP server time is faster than the system time with bellow message.

"NTP server time is faster than the system time.
In this case, NTP server time is ignored to protect the user data.
User must set the time manually.
SYSTEM TIME: Mon Oct 10 13:46:49 2011
SERVER TIME: Mon Oct 10 13:33:12 2011
DVR ID: DVR
IP ADDRESS: 172.16.2.46"

SEND EMAIL Enable/disable the send e-mail function.(ON/OFF)



SERVER TYPE: Select GMAIL, HOTMAIL, AOL, YAHOO or MANUAL)

MAIL SERVER: Enter the appropriate mail server information.

MAIL PORT: Assign Mail Port number.

SECURE OPTION: Select the secure mail server connection method. **(SSL or TLS)**

ID: Enter the appropriate mail server ID.

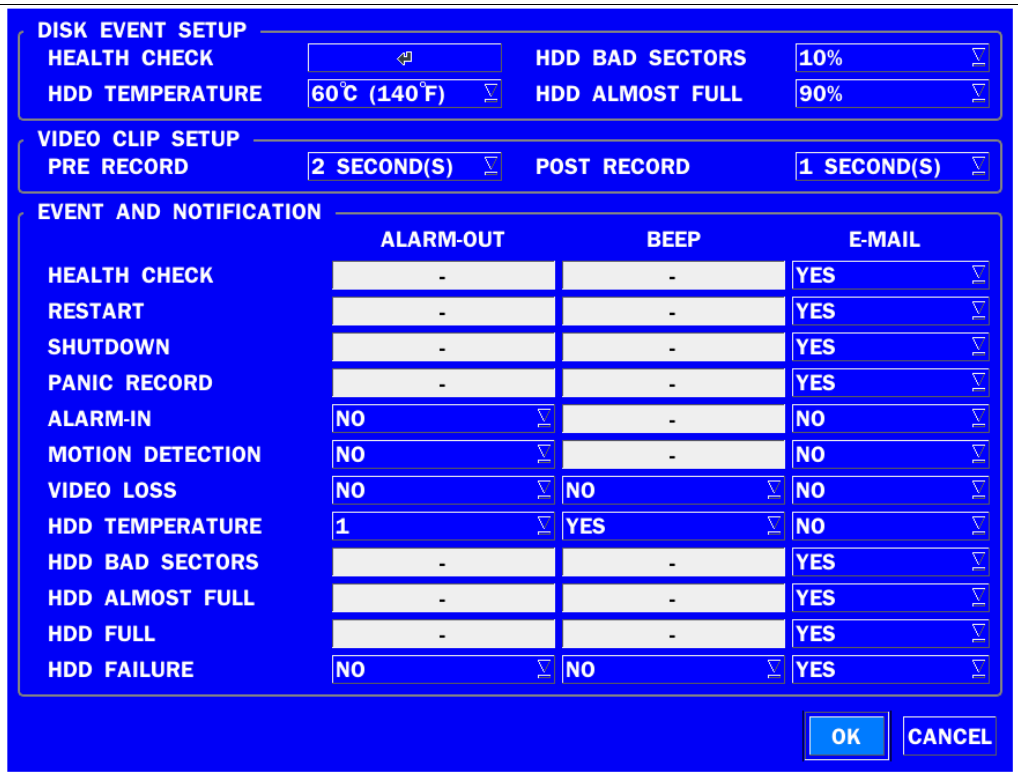
PASSWORD: Enter the appropriate mail server PASSWORD

MAIL TO: Enter the appropriate email address to enable sending e-mail reports using a virtual keyboard.

MAIL FROM: To set the email address sent to the destination host.

TEST : E-mail settings sent a test mail to the registered account

SYSTEM EVENT NOTIFICATION



HEALTH CHECK – OFF, ON

(Allows the user to set MAIL STATUS periodically) : DAILY or WEELY or MONTHLY

VIDEO CLIP SETUP – Set video recording time for the e-mail appending

Features motion detection or alarm input events only

EVENT AND NOTIFICATION – OFF, ON

(Allows the user to set EVENT NOFICIATION ON or OFF)

HEALTH CHECK / RESTART / SHUTDOWN / PANIC RECORD

- Enable Email Notification in the event a problem occurs with the DVR.

ALARM-IN – Enable Email Notification when the camera detects sensor.

MOTION DETECTION – Enable Email Notification when the camera detects motion.

NO CONNECTION – Enable Email, Beep and Alarm output Notification when the camera signal is lost.

HDD TEMPERATURE – Enable Email, Beep and Alarm output Notification when the HDD temperature.

HDD BAD SECTORS – Enable Email Notification when the HDD has bad Sectors.

HDD ALMOST FULL – Enable Email Notification when the HDD is almost full

HDD FULL – Enable Email Notification when the HDD is full

HDD FAILURE – Enable Email, Beep and Alarm output Notification when the HDD fails.

3-7. Setup – SECURITY Mode

In the SETUP menu, select the SECURITY tab. Then, the SECURITY menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control.

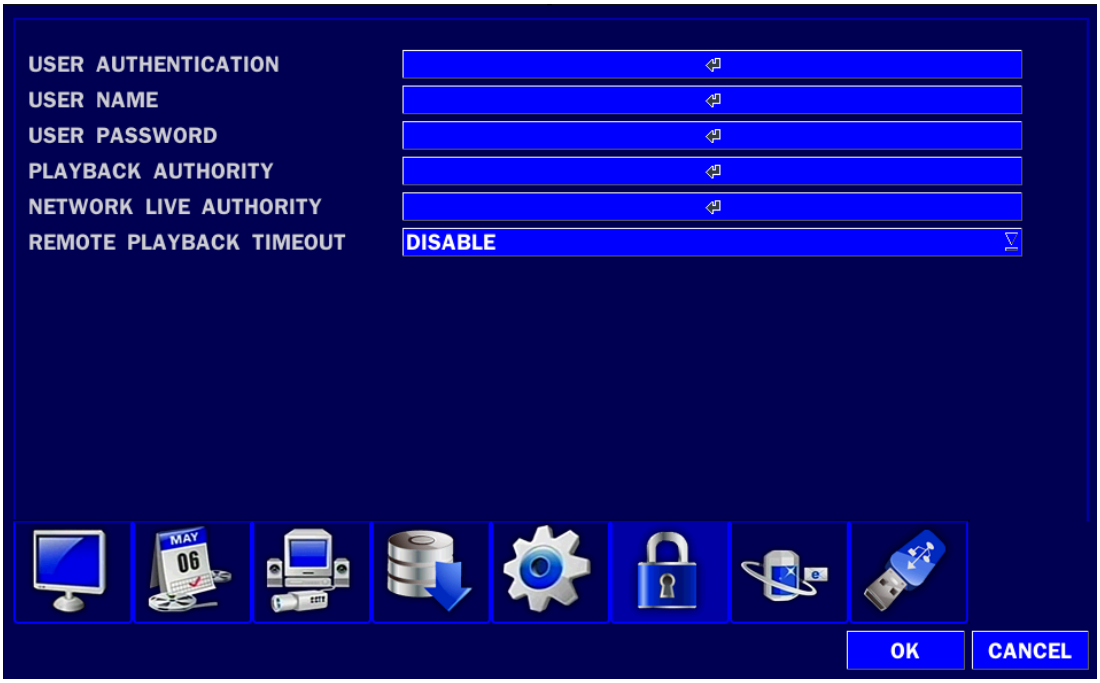


Figure 3.7.1. SICURITY setup screen

Table 3.7.1. Menu Items in PASSWRORD Setup Screen

Item	Description
USER AUTHENTICATION	Only the Admin will have access to the menu. **PASSWORD CHECK:** Select the Checkbox to enable the functions or leave the Checkbox blank to disable the functions. • **SETUP: Enable/Disable of access to Setup** • **PB: Enable/Disable of access to Playback** • **PTZ: Enable/Disable of access to PTZ Control** • **REC OFF: Enable/Disable of manual Record** • **NETWORK: Enable/Disable of access to Network** Selected Checkbox: The DVR will ask for a password when the given function is selected for all users. Blank Checkbox: The DVR will not ask for a password when the given function is selected for all users.

ADMIN, NETOWRK, USER1, USER2, USER3:

V check: It means the user can access to the function.

Blank: It means the user cannot access to the function.

USER NAME

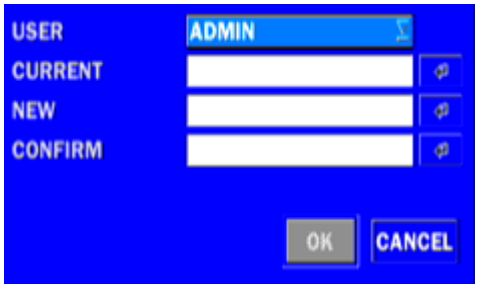
Change the name of USER1, USER2 and USER3.

Click “ENTER” after naming.

USER PASSWORD

Options are ADMIN, USER1, USER2 and USER3.

Select USER PASSWORD using the mouse or the remote control and press SEL button. Select user type and enter the current password. And, enter a new password, enter the same password again to confirm and select OK. Then the message “PASSWORD CHANGED” is displayed.



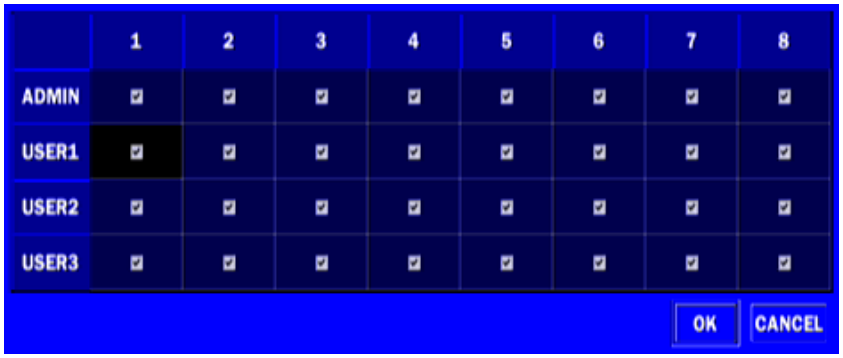
The factory default password is **1111**.

It is highly recommended to assign a new password to protect the system.

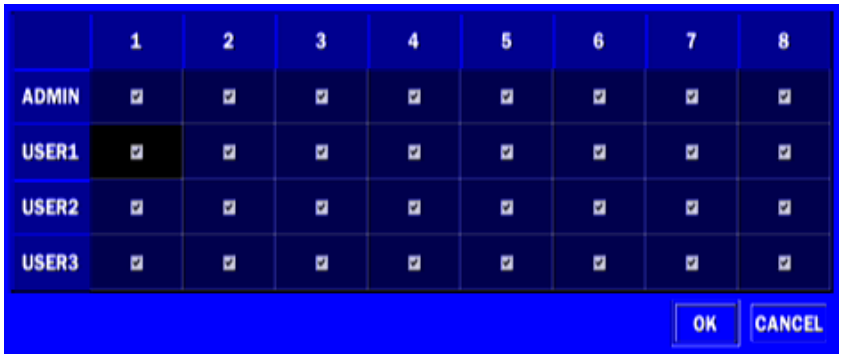
PLAYBACK AUTHORITY

Set authority level of playback on each user.

Checked box: authorized to playback. **Blank check box**: no authority.



NETWORK LIVE AUTHORITY	Allows specific users to view selected channels or block the view of selected channels.



When user set this function, they can see a user login window. Then, user can select one of user types (ADMIN, USER1, USER2, USER3) using the mouse or the control button (◀ ▲ ▶ ▼) on the remote control. Then password input screen will be displayed. User can select a password using the mouse or the control button (◀ ▲ ▶ ▼) on the remote control. The factory default password is 1111. It is highly recommended to assign a new password to protect the system. User can assign a new password in the SECURITY setup menu.

3-8. Setup – Network Mode

Select the NETWORK tab. Then, the network menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control.

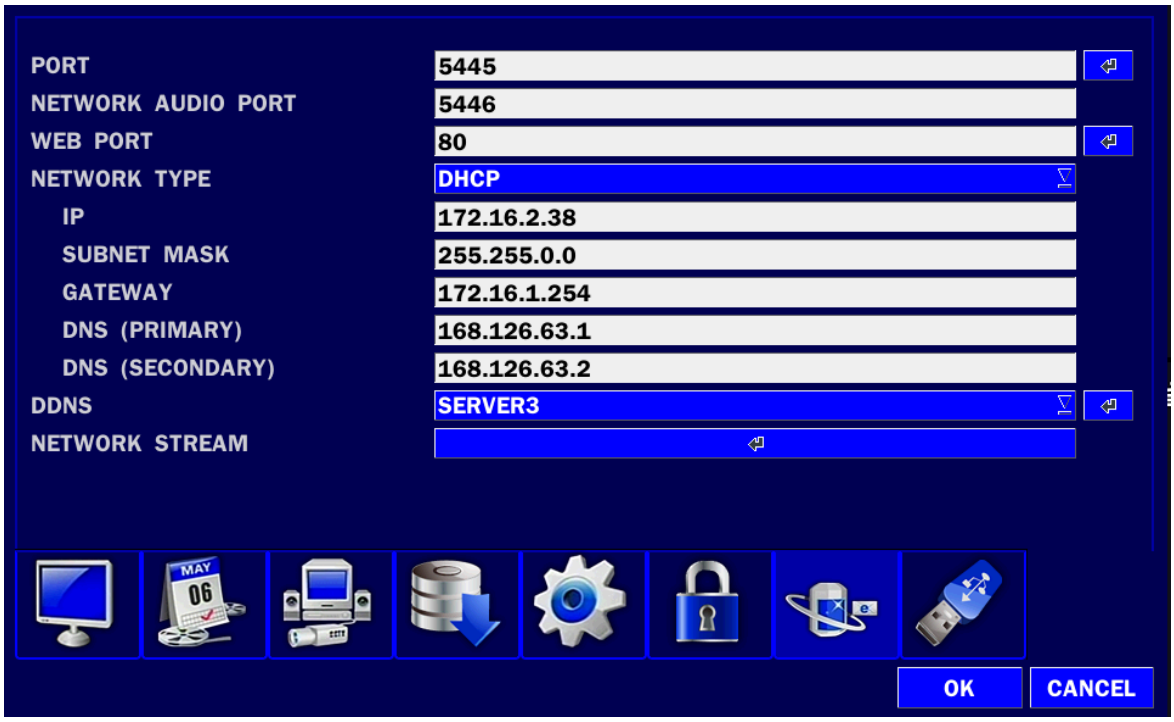


Figure 3.8.1. NETWORK setup screen

Table 3.8.1. Menu items in Network Setup screen

Item	Description
PORT	DVR port. Default is 5445.
NETWORK AUDIO	Set the port for sending audio data via network. Default is 5446 and it

PORT	has to be the next number of the DVR port. (PORT + 1).
WEB PORT	Enter the port number for connection using web. Default is 80.
NETWORK TYPE	Select a type of network connection.
DHCP	DVR will automatically retrieve an IP address.
STATIC	Network information must be manually configured
IP	Enter IP address that is assigned for the DVR
SUBNET MASK	Enter Subnet Mask that is assigned for the DVR
GATEWAY	Enter Gateway that is assigned for the DVR.
DNS (PRIMARY)	The address for the primary DNS server
DNS (SECONDARY)	The address for the secondary DNS server
DDNS	Dynamic Domain Name System (DDNS) allows a DNS name to be constantly synchronized with a dynamic IP address. In other words, it allows using a dynamic IP address to be associated with a static domain name so others can connect to it by the static name. Enable/disable using domain name address through DDNS server. **DDNS 1**: Select one type among the following three DDNS server. **DDNS 2**: Select this type when wants to use other general-purpose DDNS Server. **DDNS INTERVAL**: Set the connection interval (5-60minutes)
NETWORK STREAM	Set the value for network streaming.

3-8-1. Port, Network Audio Port and Web Port

When you connect one or more DVRs to a network through an IP sharing device, each device must have a unique TCP port number for access to each unit from outside the LAN. Also, the IP sharing device must be configured for port forwarding so when each port is accessed on the IP sharing device, it will forward to the appropriate DVR.

Note: This port number is listed next to the Port menu option in the Network Setup screen. If you plan to access the DVR units only from within the same LAN, the TCP port does not have to be changed.

Network access beyond a router

In order to access the DVR remotely beyond a router (firewall), the user must open TCP port for command level, live/storage channels. User need to open port number 5445 and 5445.

If the DVR supports remote setup and upgrade function over the network, user need to open additional port number 80.

Web viewer Network access beyond Router

In order to access beyond Router (Firewall), user must open 1 TCP port that is set on NETWORK > WEB PORT. If this port is not open properly, user can not access DVR using direct Web viewer (Example: When NETWORK > WEB PORT is set as 80, 80 TCP port of IP address of DVR must be open.)

3-8-2. Network Types

3-8-2-1. DHCP

An IP address is automatically assigned by the DHCP server, which automatically assigns IP address and other parameters to new devices.

When ADSL or other network being used adopts variable IP method, not fixed IP. This option is used as a way to automatically get IP address.

3-8-2-2. STATIC

1. For the use of fixed IP.

(See your network administrator if you do not have this information)

2. When DVR is installed in IP sharer that is connected with ADSL, a user can assign fixed IP to DVR from IP sharer itself using “DMZ” function out of such sharer.

Input IP set in DMZ on “IP” field and Gateway of ADSL modem on “Gateway” field. Similarly, for Subnet Mask, DNS address, input relevant values in IP sharer.

Table 3.8.2.2. STATIC

Item	Description
IP	The fixed IP address of the DVR unit.
SUBNET MASK	The subnet mask for the LAN
GATEWAY	The IP address of the Gateway
DNS (PRIMARY)	The address for the DNS server
DNS (SECONDARY)	The address for the DNS server

NOTE

Unless DNS is properly set, the DDNS and the e-mail features will not work.

3-8-3. DDNS

User can use the function to connect to a network with a domain name. When it selects a Sever 1, user can select one type among five DDNS Servers which be supporting for free. (okddns.com for Korea, ddnscenter.com for USA and bestddns.com for other area including EU and other areas.) The DDNS interval can be set from 5 to 60 minutes.

To connect to a network with a domain name, user also has to register a MAC address and create a unique domain name to http://www.bestddns.com, http://www.okddns.com or http://www.ddnscenter.com. Please refer to Appendix: How to connect network section for the detail of the registration.

Figure 3.8.3.1. Network setup screen – DDNS Server 1

If user wants to use other general-purpose DDNS Server, select a Sever 2. Then, user has to input the server name, ID and password using a virtual keyboard.

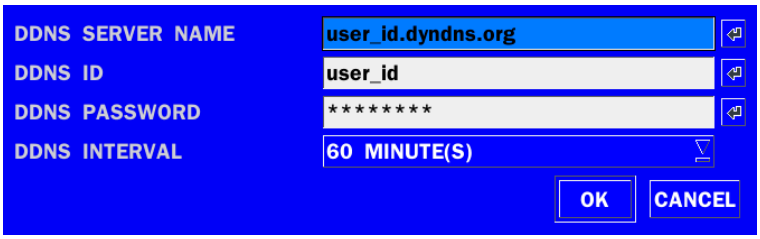


Figure 3.8.3.2. Network setup screen – DDNS Server 2

3-8-4. Network Stream

User can set the resolution, the frame rate and the quality for a network stream classified by channel. It is recommended that user should adjust each item to proper level to get the network service smoothly.

The maximum value for the network stream is VGA 15fps per channel but the recording resolution and frame rate are sending when only one user connects to the one channel mode via network.

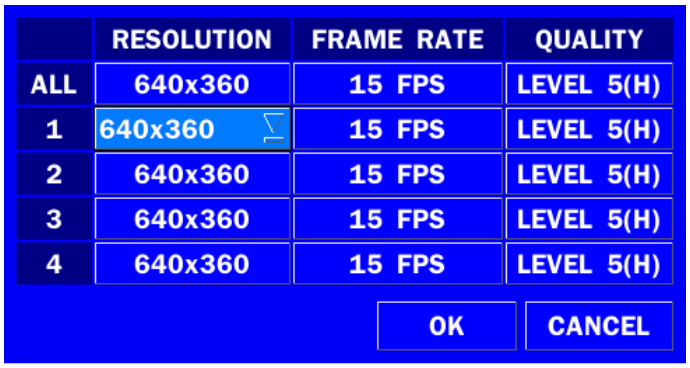


Figure 3.8.4. Network setup screen – Network Stream

3-9. Setup - CONFIG Mode

In the SETUP menu, select the CONFIG tab. Then, the configuration menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control.

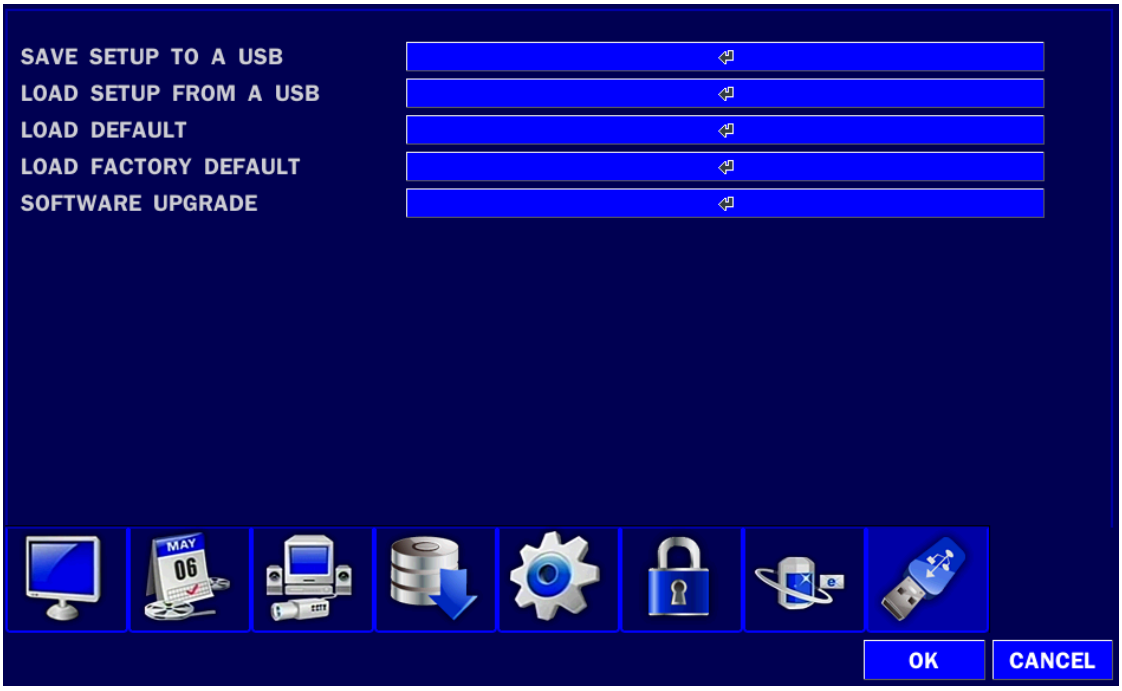
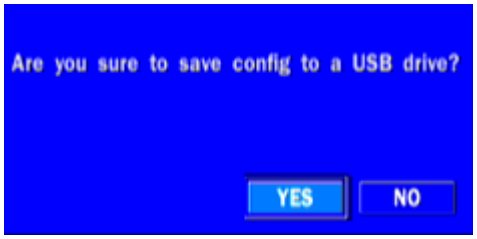
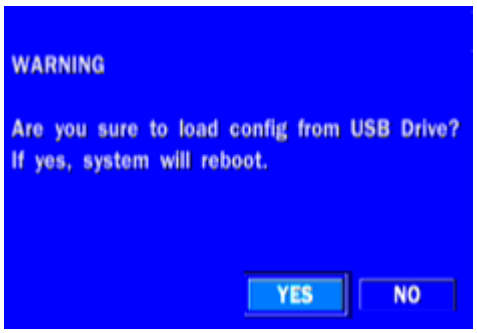
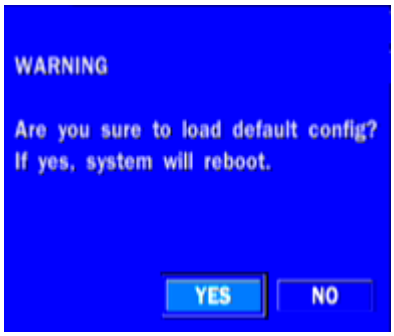
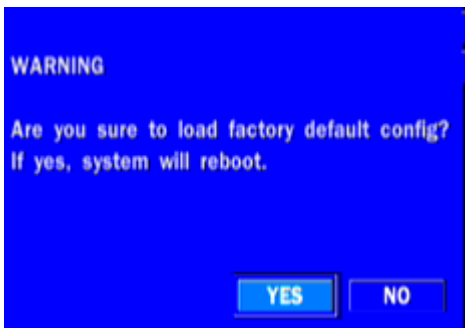


Figure 3.9.1. Config setup screen

Table 3.9.1. Config setup

Item	Description
SAVE SETUP TO A USB	User can save the current configuration (Setting values) of the DVR to the USB flash drive. Plug in the USB flash on the front panel and press the button to start the saving process. 
LOAD SETUP FROM A USB	User can upload the configuration of the DVR to another DVR using the USB Flash drive. Plug in the USB flash drive on the front panel and press the button to start the loading process. 
LOAD DEFAULT	Press the button to reset the system to the default settings.  The following settings such as **Language, DVR ID, Security User Authentication, Security User P/W, Date format, DLS settings, Network settings, HDD overwrite, Limit recording, HDD serial number, and HDD ERROR time** will not be included.
LOAD FACTORY DEFAULT	Press the button to reset the system to the factory default settings. 

SOFTWARE UPGRADE	Upgrade softeware to the latest version. After connecting USB flash drive to USB port on the DVR, click SEARCH. It will automatically find the upgrade file. Please refer to 7. Upgrading Firmware.

4. Live, Search and Playback

4-1. Live Viewing Screen

In the Live screen, video inputs from the cameras are displayed as they are configured in the Display Setup screen. Various on-screen display (OSD) symbols, which indicate the status of the DVR, are described in Table 4.1.1.

Figure 4.1.1. Live Viewing Screen

The following status bar hides automatically and appears again when putting a mouse pointer to the bar.

Table 4.1.1. Status Indicator Icons in Live Viewing Screen

Icon	Description
2014/04/04 16:07:20	Displays the current date and time.
R:ALL	Remote control ID display. If a remote ID is not set, the message “R: ALL” is displayed.
15%	Displays the amount of recording on the hard disk from 0-99%.

	Indicates that HDD is recycled.
	Continuous recording in progress.
	Manual recording in progress. To set the Manual recording mode, press the Record button on the front panel.
	Motion alarm recording in progress.
	Sensor recording in progress.
	Indicates that the lock is set. To
	Audio mute. To set audio mute, press the Audio button on the front panel. Single audio display. To set audio single for highlighted channel only, press the Audio button on the front panel.
	Indicates that alarm is set. To set the alarm function, press the Alarm button on the front panel.
	Indicates that alarm output is activated.
	Event indicator. When there is an event (motion recording, video loss, HDD fail, S.M.A.R.T), this icon will be highlighted bright.
	Indicates that a network client is connected to the DVR.
	Indicates that sequencing mode is enabled.

Right click the mouse, and the quick operation window will be displayed as below.

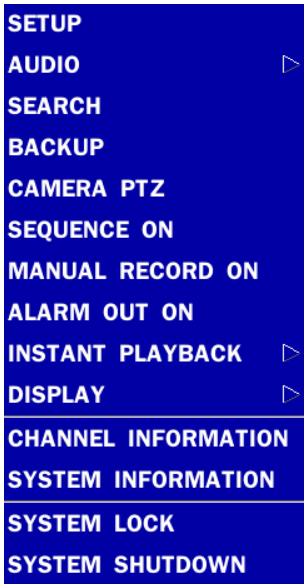
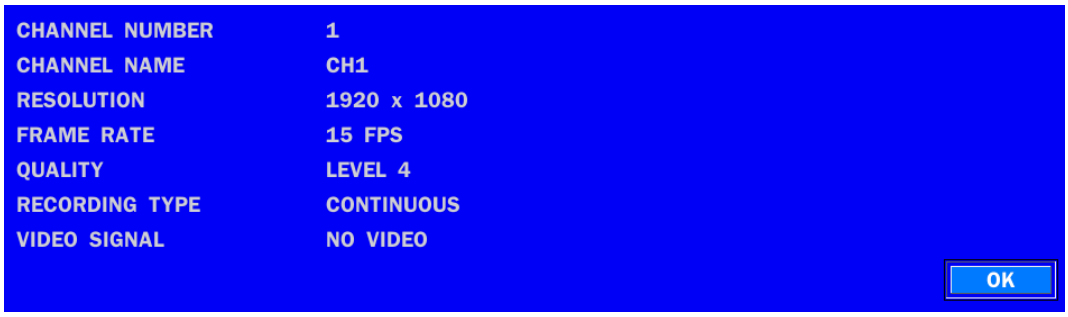


Figure 4.1.2. Quick Operation Window

Table 4.1.2. Menu Items in Quick Operation Window

Icon	Description
SETUP	Select this option to enter the Setup menu.
AUDIO	Select this option to mute audio on all channels.
SEARCH	Search button. Click this button to enter the search menu.
BACKUP	Capture pictures and store as BMP files
CAMERA PTZ	Pop up the PTZ user interface.
SEQUENCE ON	Sequence button. Click this button to use a sequence function.
MANUAL RECORD	Manual Record button. Click this button to enable manual recording.
ALARM OUT	Click this button to enable/disable Alarm outputs
INSTANT PLAYBACK	Live screen, you can fast search. (Go Back to 10sec, 20sec, 30sec, 60sec).
CONTROL BAR SHOW	Set to hide automatically or display continuously a control bar on the bottom side in a live mode.
CHANNEL INFORMATION	Press the button to view the record setting of a selected channel. 
SYSTEM INFORMATION	Press the button to view the system information.
SYSTEM LOCK	Locks the DVR from unauthorized user access.
SYSTEM SHUTDOWN	Select this option to shutdown system.

4-2. SEARCH Screen

To enter the search screen, select SEARCH menu on the screen using the mouse or press SEARCH icon on live screen.

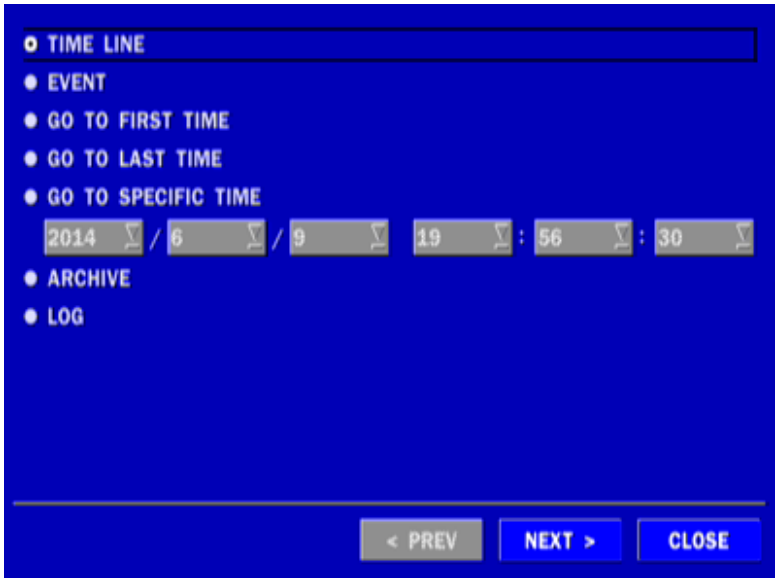
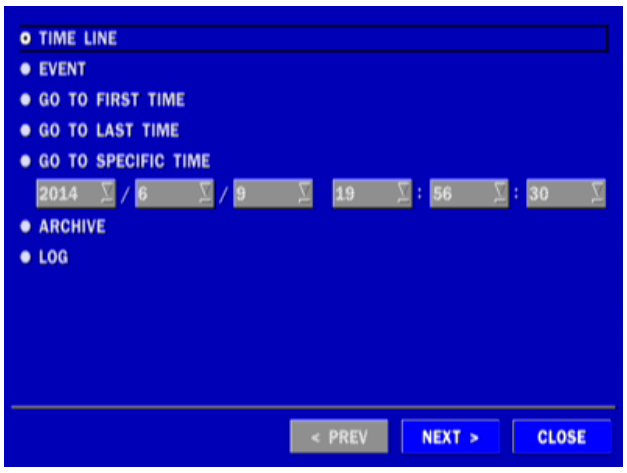


Figure 4.2.1. Search Screen

There are 7 ways of search menu such as TIME LINE (Calendar), EVENT, GO TO FIRST TIME, GO TO LAST TIME, GO TO SPECIFIC TIME, ARCHIVE LIST, and LOG LIST on the screen.

4-2-1. TIME-LINE Search

The TIME-LINE search window is used to find the stored video by using the time line bar.



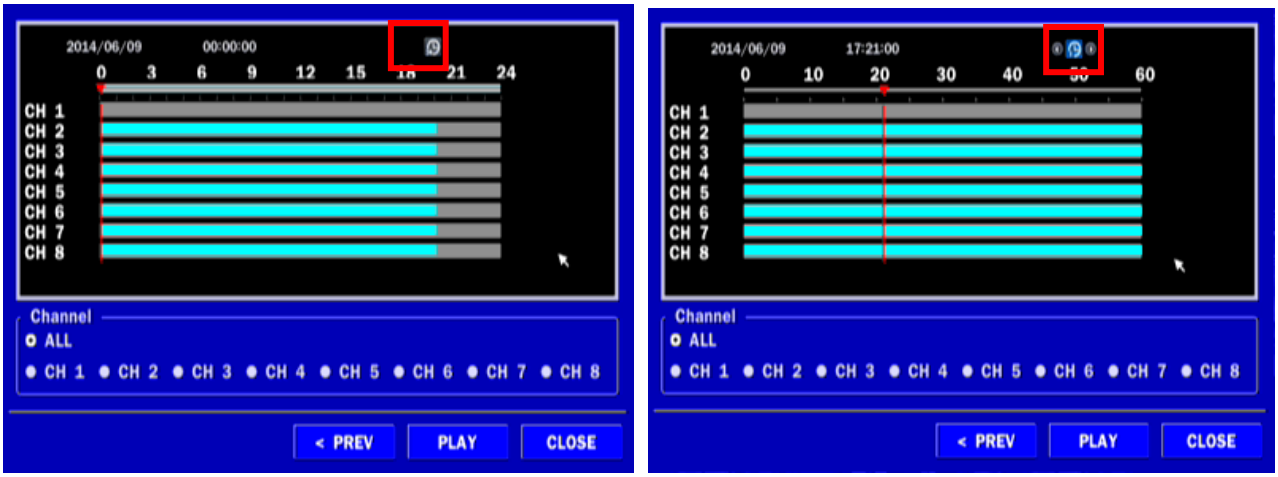


Figure 4.2.2. Time Line Search screen

When it clicks a Timeline menu, user can see a calendar which has recording data. Select a specific date and time. Use a drag-and-drop function of the mouse control. User can select a specific minutes using a button in the above red box. Press a PLAY button after setting a specific time. Press the PREV to return to the SEARCH window.

4-2-2. Event Search

The Event Search window is used to find stored video.

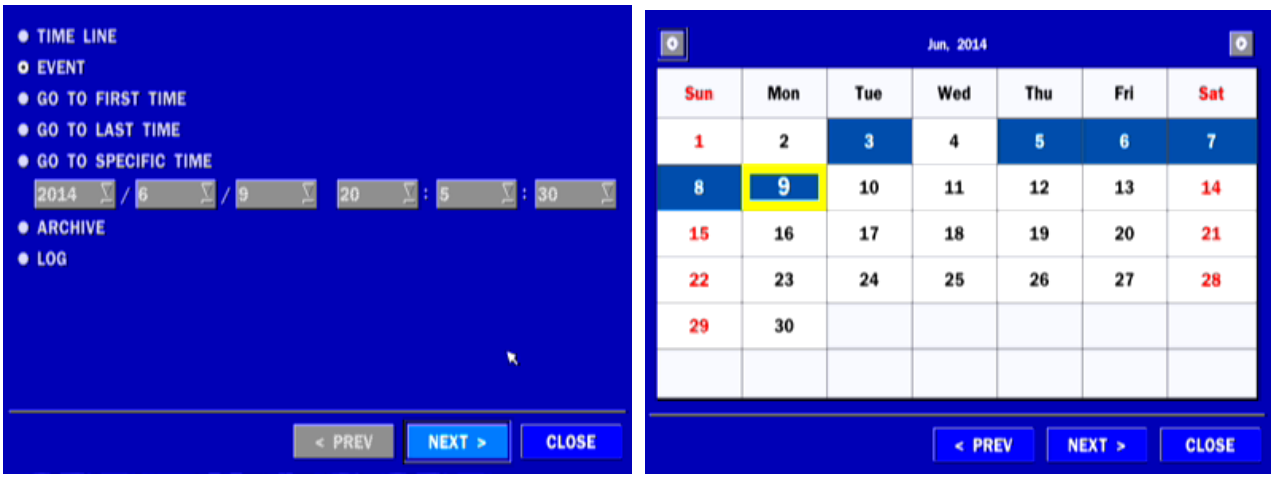

TIME LINE
EVENT
GO TO FIRST TIME
GO TO LAST TIME
GO TO SPECIFIC TIME
2014 / 6 / 9 20 : 5 : 30
ARCHIVE
LOG
< PREV
NEXT >
CLOSE
Jun, 2014
Sun Mon Tue Wed Thu Fri Sat
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30
< PREV
NEXT >
CLOSE

Figure 4.2.3.1. Event Search screen

When the Event menu is selected, the user can see a calendar, which has recorded data. Select a specific date and the event log will be displayed. Press the PLAY button to playback the data or the SAVE button to save the data after selecting the specific data. User can find a data of the specific channel and event using a button in the above red box as following Figure 4.2.3. Press the PREV to return to the SEARCH window.

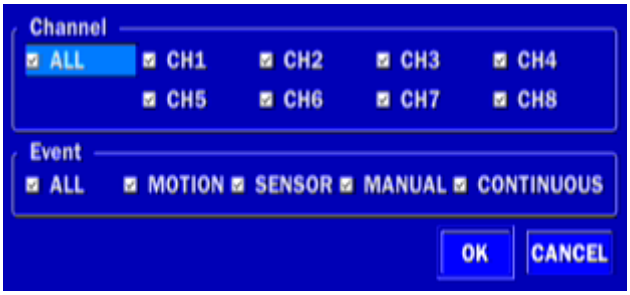


Figure 4.2.3.2. Event Search screen

4-2-3. Go To First Time

You can access from the oldest recorded data on the DVR hard drive by selecting GO TO FIRST TIME on the SEARCH window. Press the PREV to return to the SEARCH window.

4-2-4. Go To Last Time

You can access from the last minute recorded data on the DVR hard drive by selecting GO TO LAST TIME on the SEARCH window. Press the PREV to return to the SEARCH window.

4-2-5. Go To Specific Time

User can search for video data from a specific instance by setting the date and time in the GO TO SPECIFIC TIME menu. Use the mouse or the remote control to change the date and time value and press the PLAY button after setting. If there is no video data in the set date and time, No Data Exist message displays.

4-2-6. Archive Search

The ARCHIVE Search window is used to find previously stored video or images.

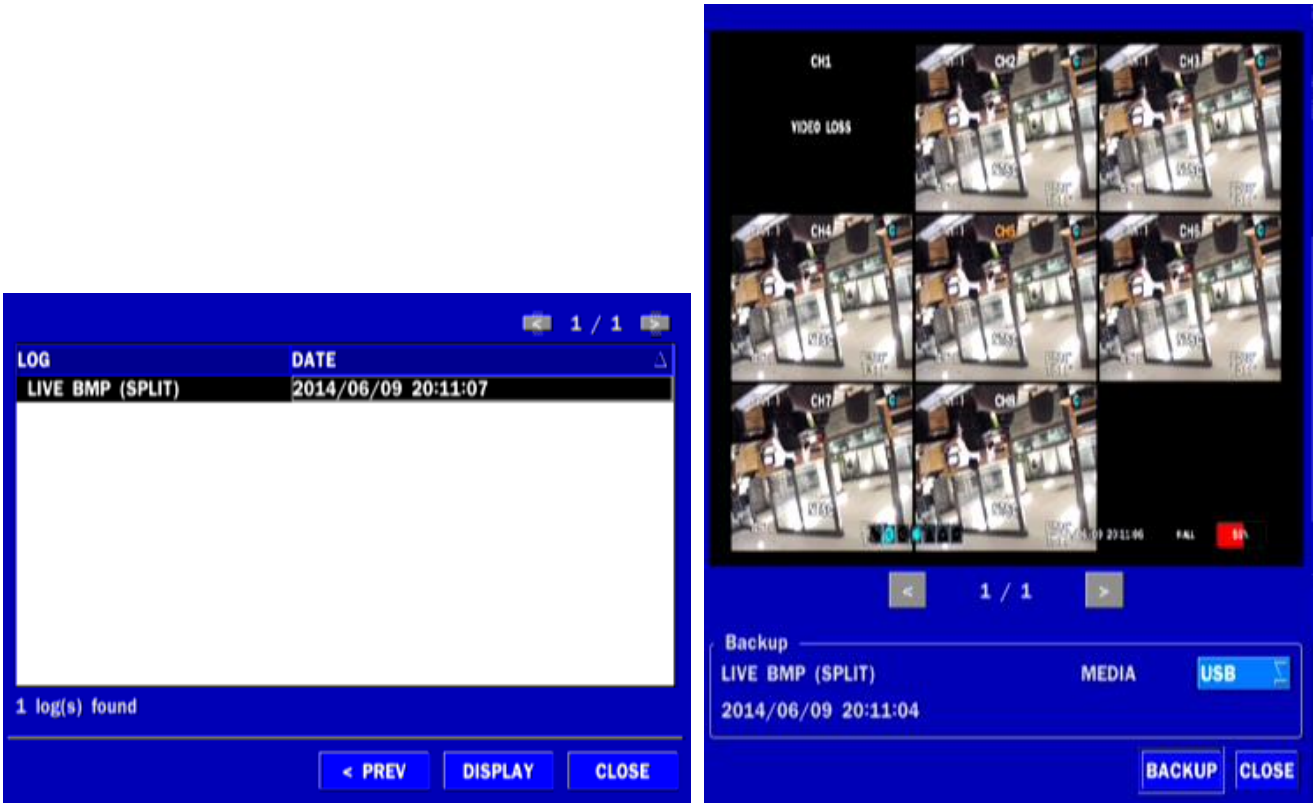


Figure 4.2.6 Archive Search Screen

When it clicks an Archive menu, user can see a calendar which has recording data. Select a specific date and then user can see all data. When it presses a Display button, the still image or the first frame of the selected video is opened and user can save the data.

4-2-7. Log Search

You can access the LOG list search screen by selecting LOG on the SEARCH window.

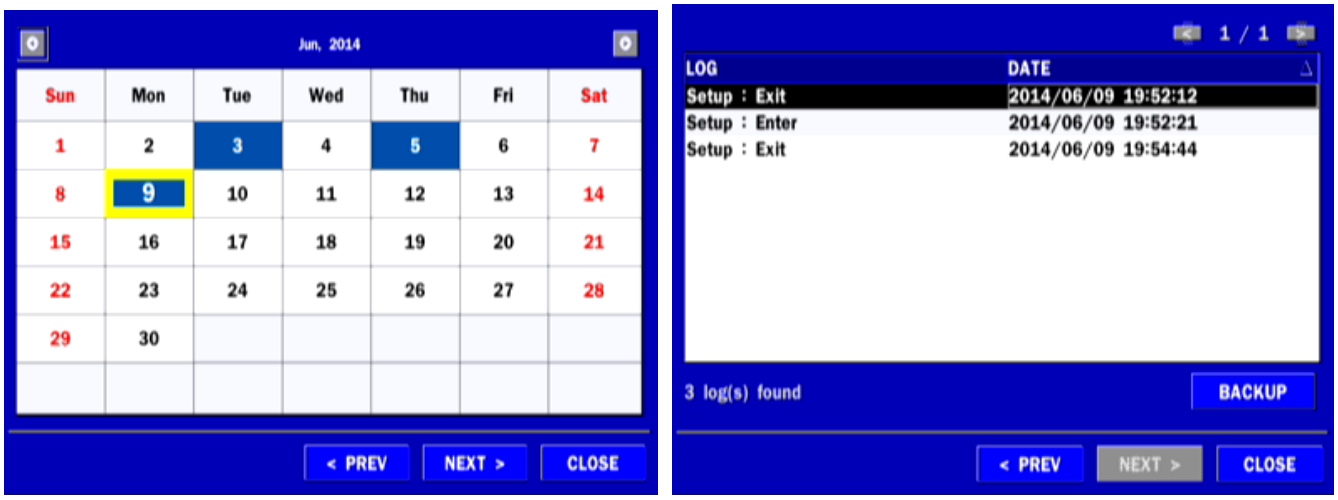


Figure 4.2.7 Log Search Screen

When it clicks a Log menu, user can see a calendar which has recording data. Select a specific date and press NEXT button. Then user can see all log data. Press SAVE button to save the data and then the data is saved to text file format.

4-3. Play mode

During playback of a recorded event, the mode changes from SEARCH to PLAY. While in PLAY mode, you may return to the SEARCH screen by pressing the X button on the status bar or the ESC button of a remote control.

Figure 4.3.1. PLAY Mode Screen

The following status bar hides automatically and appears again if a mouse pointer is positioned to the bottom of the screen.

Table 4.3.1. Button functions in PLAY Mode

Button	Description
	Return to the previous menu screen, search window, or exit from the Menu
	• 2x, 4x, 8x,16x, 32x speeds at 4 split screen • 2x, 4x, 8x,16x, 32x at 9 split screen • 2x, 4x, 8x, 16x, 32x at 16 split screen • Single Channel backward playback speed 1x, 2x, 4x, 8x, 16x, 32x,
	Jump/Step backward. The playback position moves 60 seconds backward.
	Press to play or pause recorded video.
	Jump/Step forward. Playback position moves 60 seconds forward.
	• 2x, 4x, 8x,16x, 32x speeds at 4 split screen • 2x, 4x, 8x,16x, 32x at 9 split screen • 2x, 4x, 8x, 16x, 32x at 16 split screen Single Channel forward playback speed 1x, 2x, 4x, 8x, 16x, 32x
	Press to Back up the video.

4-4. Digital Zoom in Live and Playback Screen

DVR series supports Digital Zoom feature during live and playback mode.

1. Double click the target channel.

2. Click the left button of the mouse and drag to make rectangular shape.

5. PTZ Control

To control the PTZ functions of the camera, select PTZ menu on the screen using the mouse.

Please refer to the table 5.1. for the control.

Table 5.1. Button Functions in PTZ Control

Item	Description
INITIALIZE	Initialize the PTZ settings of the selected camera.
PAN / TILT	Select PAN/TILT using the mouse or the control button (◀ ▲ ▶ ▼) and press SEL button on the remote control. Adjust the Tilt(UP/DOWN) / Pan(LEFT/RIGHT) position using the mouse or the control button (◀ ▲ ▶ ▼) on the remote control.
ZOOM / FOCUS	Select ZOOM/FOCUS using the mouse or the control button (◀ ▲ ▶ ▼) and press SEL button on the remote control. Adjust the Zoom (Mouse Wheel Down or Up/Down button of the remote control)/ Focus (Mouse Wheel Up or Left/Right button of the remote control) position.
OSD	Select the OSD to enter the menu. Control keys are Right, Left, UP, Down, Select, Far (REW KEY), and Near (FF KEY). Press the ESC button to return to the main menu. Press the PTZ button to escape from the OSD menu.
AUTOSCAN	Press the right key (▶) on the control button to start auto scan. Press the left key (◀) on the control button to stop auto scan.
PRESET	Select the PRESET and press the left key (◀) on the control button. Then, number input window will appear. Set the number (3 digits) using the number key and press the SEL to set the preset number for the current position. Press the right key (▶) on the control button and set the number (3 digits) to go to the preset number.
TOUR	Select the TOUR and press the right key (▶) on the control button. Then, number input window will appear. Set the number (1 digit) using the number key and press SEL to make the group number work. Press the left key (◀) on the control button to stop tour. User can set the preset number in the tour group of the OSD menu.
NUMBER	Available only on the TOUR and PRESET menu.
	Press the ESC button to return to the main menu.

- **Preset/ Tour/ OSD/ AUTOSCAN function are available on the specific model AP8777 and PMA-200.** (Select it in the NAME of PTZ setup menu)

6. Back up

6-1. Still Image backup onto USB flash Drive

Still images can be captured and archived onto the USB flash drive or an USB external hard drive in live mode or while playing back recorded video. In live mode, press the BACKUP button to launch the archive function or select BACK UP menu on the screen using the mouse.

1. Select a specific channel which wants to back up on live screen.
2. When you press BACKUP button, the archiving screen will display as Figure 6.1.1.
3. Once you press Backup button, the system will start to archive the data to the selected media.

Figure 6.1.1. Still Image Archiving and Backup Screen

NOTICE For a backup using a USB stick, a format of the USB stick has to be set to FAT32.

6-2. Video backup onto USB flash Drive

Video can be captured and archived onto the USB stick or hard drive while playing back recorded video. In playback mode, press the BACKUP button to launch the archiving function.

1. When you press BACKUP button, the DVR will ask whether to archive a Still Image or Video clip.
2. If the user selects VIDEO, the DVR will ask for the media. To use the Huge Backup, the external USB HDD has to be mounted.
3. After selecting the media, the DVR will ask for the channel and the setting of the archiving duration. If the huge Backup is selected, the duration is from 1 hour to 24 hours.
4. After selecting the channels and setting of the duration, the system will start to archive the data to the selected media.

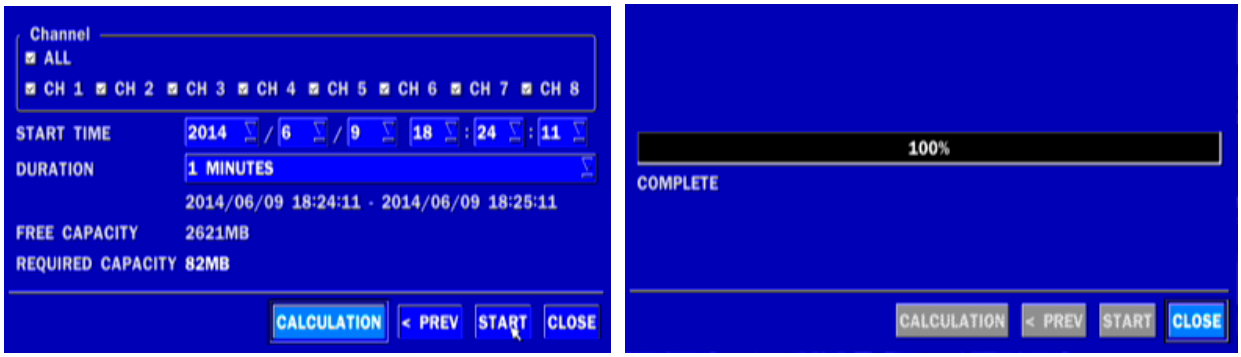


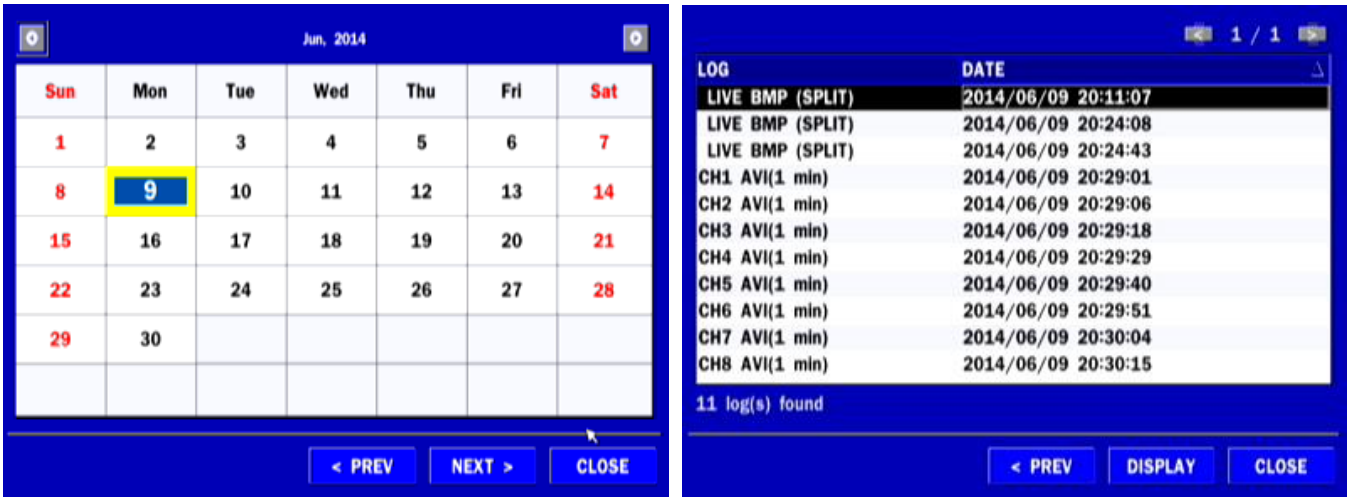
Figure 6.2.1. Video Archiving and Backup Screen

6-3. Transferring still images or video from the ARCHIVE list

The stored data onto hard drive will be found in the ARCHIVE list in SEARCH window.

User can back up still images or video into the storage device from the ARCHIVE list.

1. Select the date to begin searching and navigate through the days using the mouse or the remote control.
2. Once you have selected the date, press the NEXT button to open the list of stored data.
3. Use the mouse or the remote control to scroll through the archive list.
4. Select a list of stored events in the archive list.
5. Once the desired event has been selected, press the DISPLAY button to view the still image or the first frame of the selected video.
6. Press the BACKUP button to launch the archiving function in playback mode.
7. Press the CLOSE button to return to the SEARCH window.



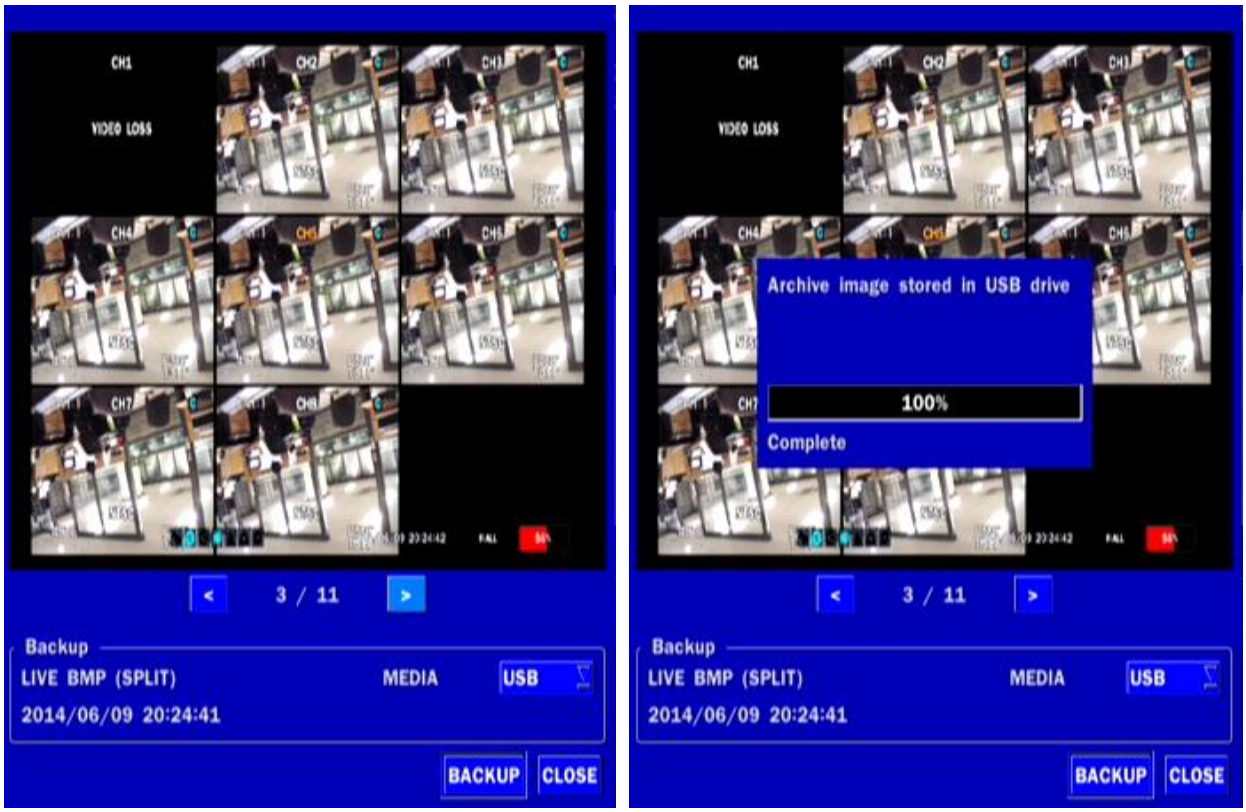
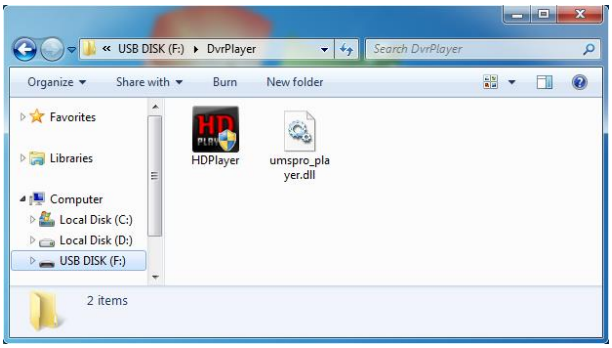


Figure 6.3.1. Archive Search Screen

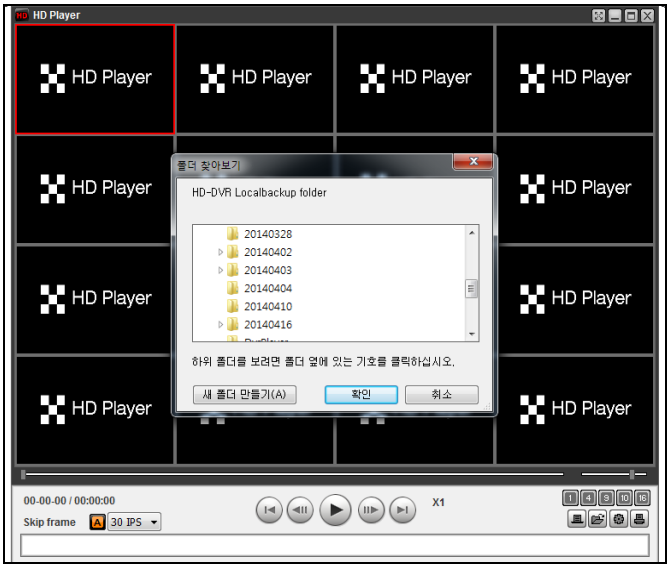
6-4. Playback of Backup Video

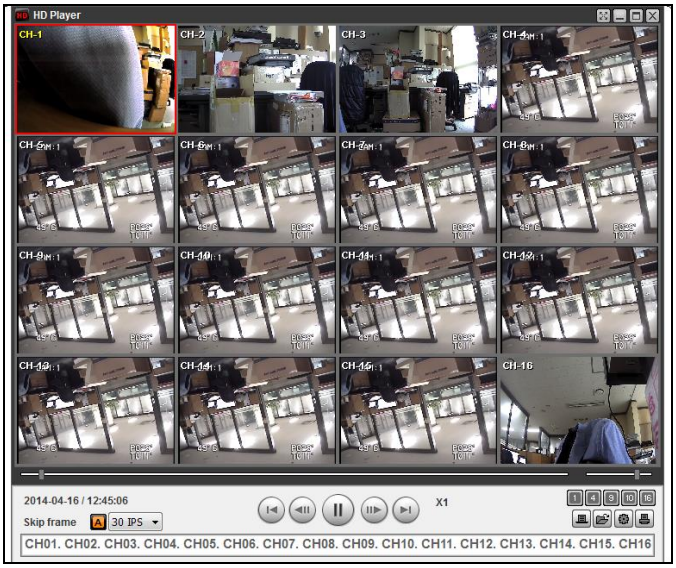
- NSF format: NSF format video can be played back by the player (the HD player) that the DVR copies on USB flash drive with video.



Two folders are copied on USB flash drive

- BACKUP DATA: NSF format video file and INDEX file for a title file of date and time
- HD PLAYER: Exclusive video viewer.





- AVI format: It can be played back by Window Media Player™ or other media player that is compatible with AVI format video.

Timestamp On AVI. The subtitle is embedded to the video clip file.

The subtitle is embedded to the AVI file.

7. Upgrading Firmware

In order to upgrade, the firmware upgrade file must first be downloaded and copied into the USB memory drive. Create a new folder in the USB memory drive and name it “upgrade”. Copy the firmware upgrade file “xxxxxx.bin” into the “upgrade” folder.

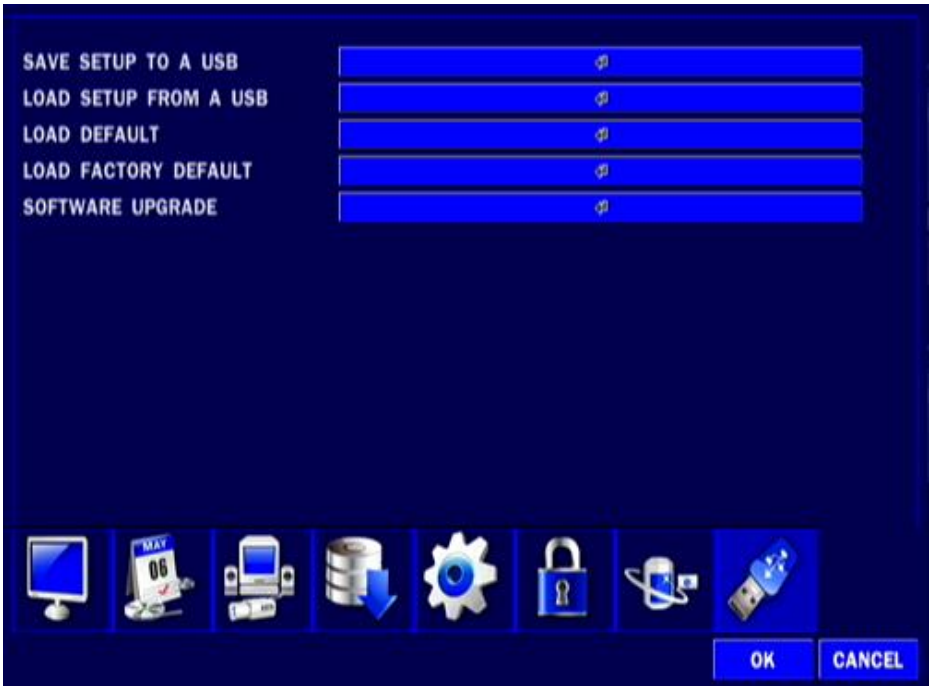
NOTICE

A format of the USB Drive has to be set to FAT32.

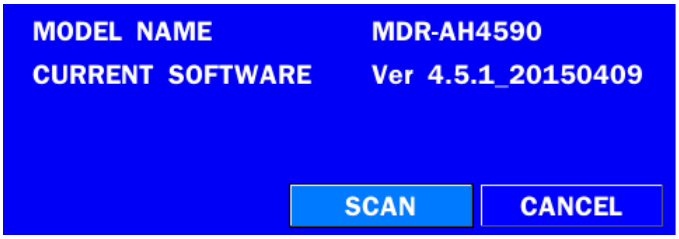
The folder on the USB memory drive must be named **“upgrade”**.

After the firmware upgrade file is copied into the USB memory drive, connect the USB memory drive to the USB port on the front or rear panel and do the followings:

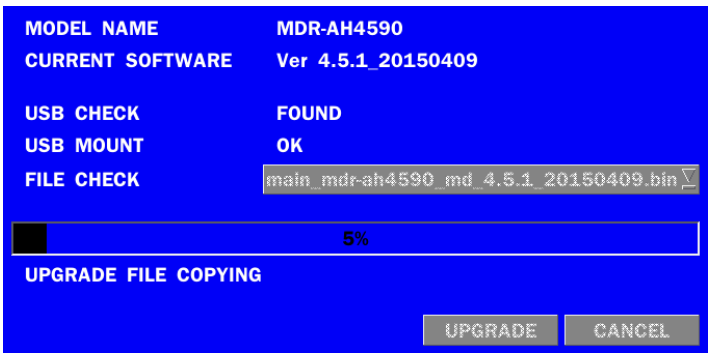
1. Go to CONFIG menu of Setup.



2. You can see the following message when pressing the software upgrade menu after putting the USB memory drive on the system.



3. You can see the following message when pressing the scan button. Please check the current firmware version and the firmware version which you want to upgrade. The system will upgrade automatically when pressing the upgrade button. After upgrading, the system should be restarted. At that time, the USB memory drive has to be pulled out on the system.



4. You could see the following warning message if you don’t pull out the USB memory drive.

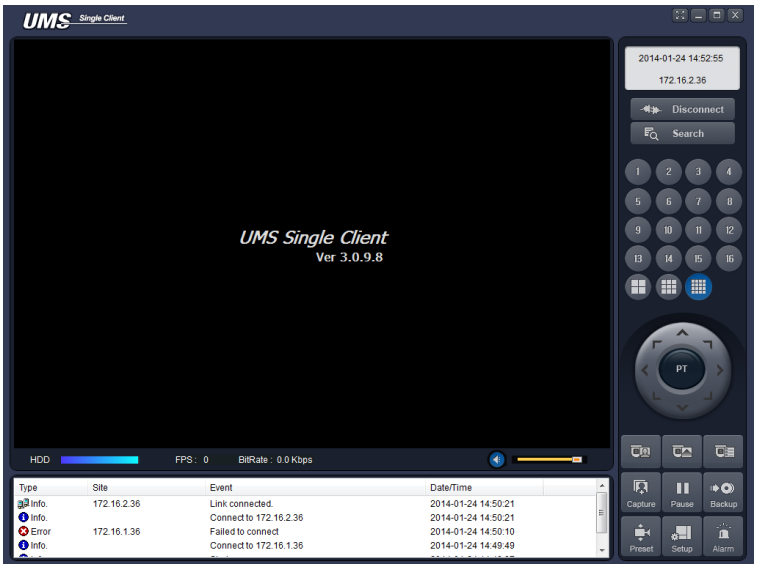
NOTICE

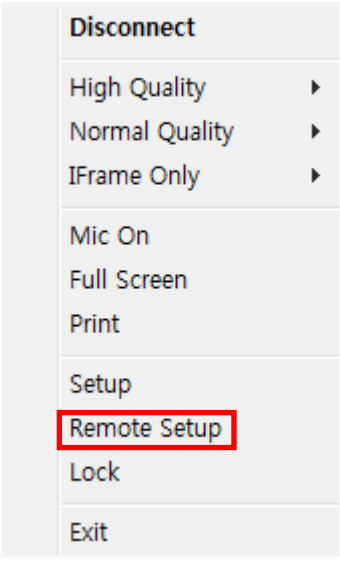
1. If selecting REBOOT LATER, the upgraded software will not be applied until the system reboots.
2. If selecting REBOOT NOW when the USB flash drive is plugged, the following message will pop up. Remove the USB flash drive and select OK.

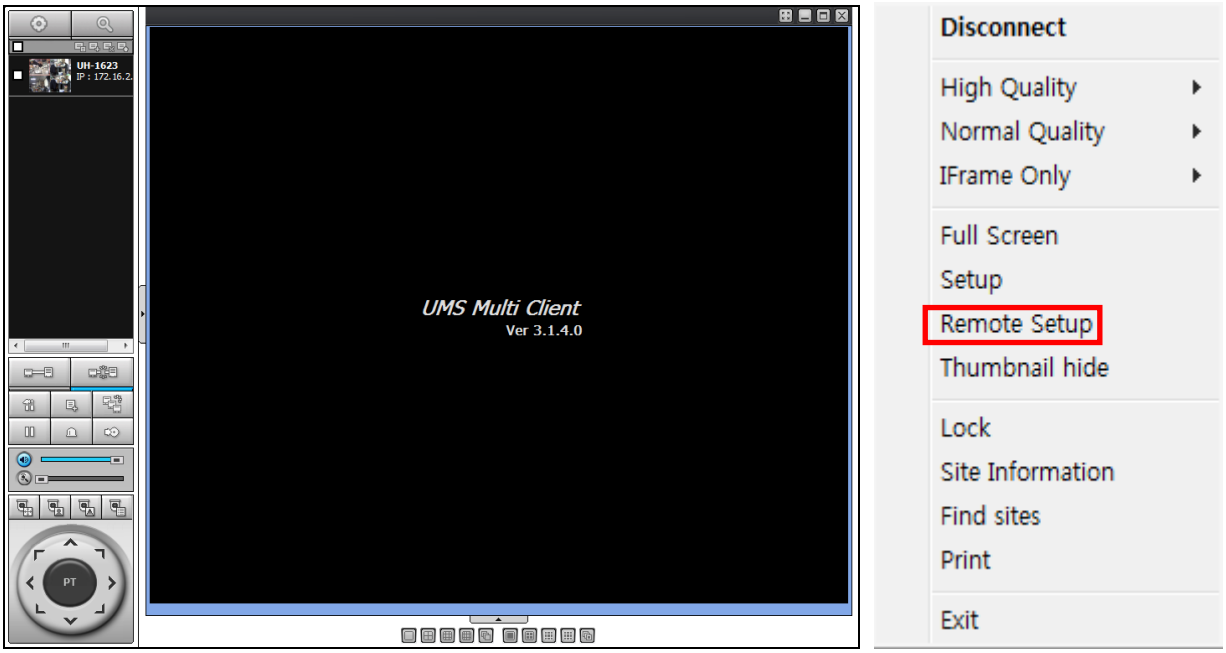
Remote Firmware Upgrade

User can upgrade the firmware via Network as follows.

1. Go to the Remote Setup menu on the UMS Single, UMS Multi or Web Viewer.

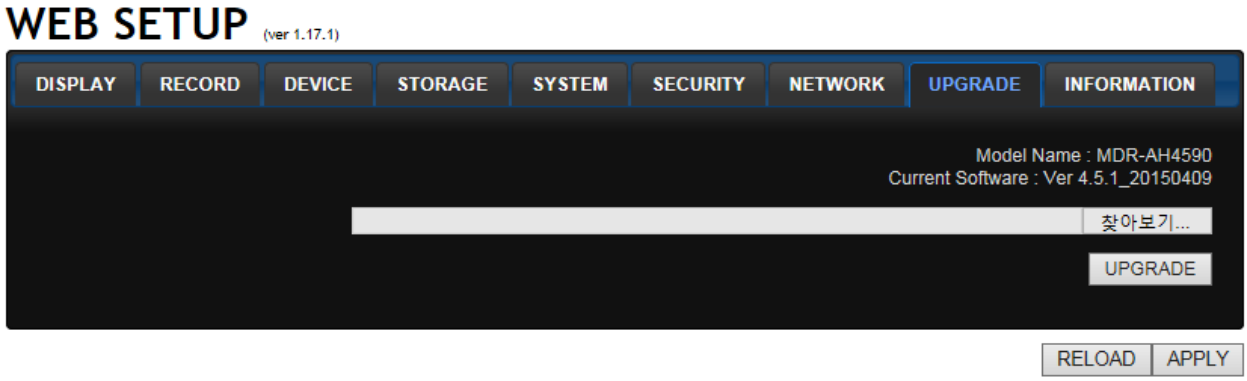




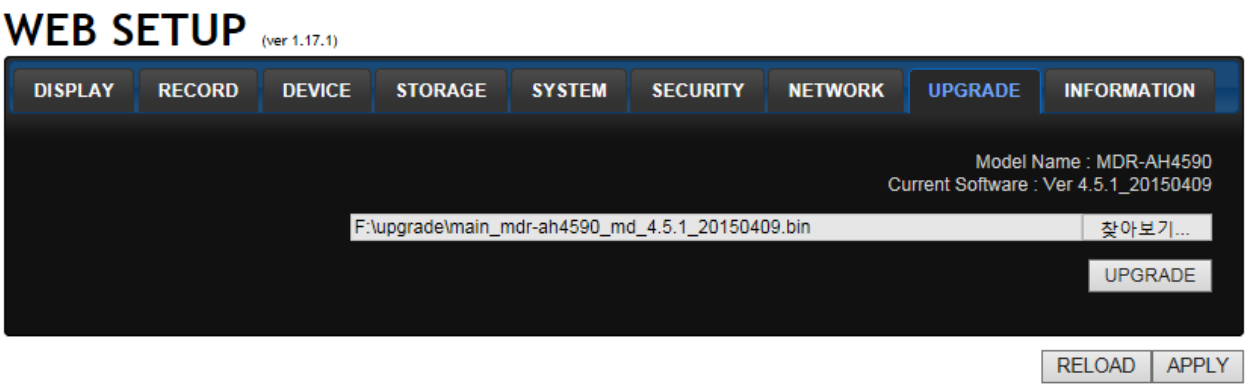


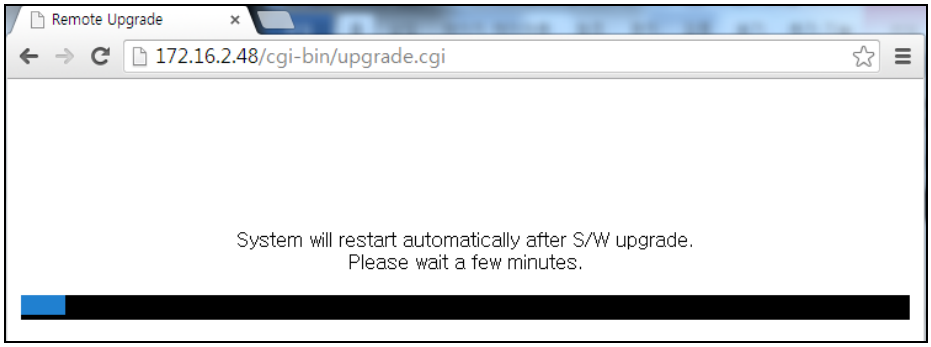
2. Press the password for admin. Just admin is possible to connect to the remote setup menu.

3. Go to the Remote Upgrade menu. Then, you can see the current F/W version as follows. To upgrade a new F/W, insert the F/W in your PC and press the UPGRADE button.



4. Then, you can see the following progress bar and it would be taken around 150 seconds to upgrade.





5. When finishing the upgrade, the network streaming would be connected again automatically and you can see the following screen. Please check the current F/W version if the upgrade is succeeded.

8. Network access using the Exclusive network viewer, UMS single

The DVR provides a live remote monitoring feature. Remote monitoring requires installation of the network viewer on your PC.

NOTICE

In a high bandwidth network, a maximum of four users can access one DVR simultaneously.
In a low bandwidth network it is recommended that only one user access the DVR at a time.

8-1. PC requirements

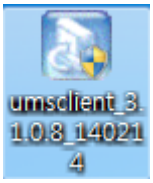
- CPU: Intel Core i3 1.8Ghz or higher
- Memory: 1GB (1GB or higher is recommended.)
- VGA memory: 512MB (512MB or higher is recommended.)
- Resolution: 1280x720

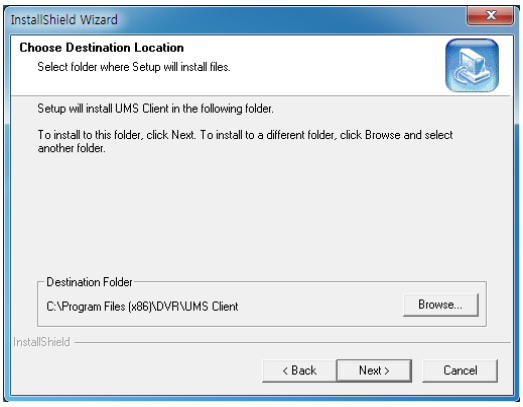
- O/S: Windows 2000, XP Professional, XP home, Vista, 7(NOTE: Not all versions of Vista and 7 are supported)
- Direct X: DirectX 9.0c or higher

8-2. Installing the network viewer

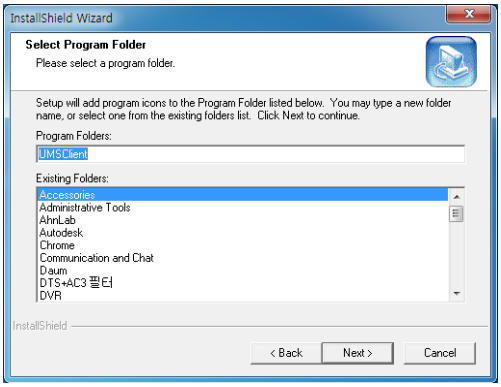
1. Insert the provided CD in the CD drive and double-click “UMSClient(XXXX)**.exe**”

2. Select a destination folder and click “Next”

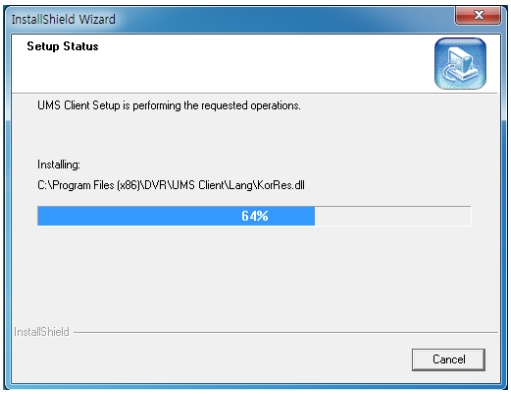



InstallShield Wizard
Choose Destination Location
Select folder where Setup will install files.
Setup will install UMS Client in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\Program Files (x86)\DVR\UMS Client
Browse...
InstallShield
< Back
Next >
Cancel

4. Select the program folder and click “Next”.



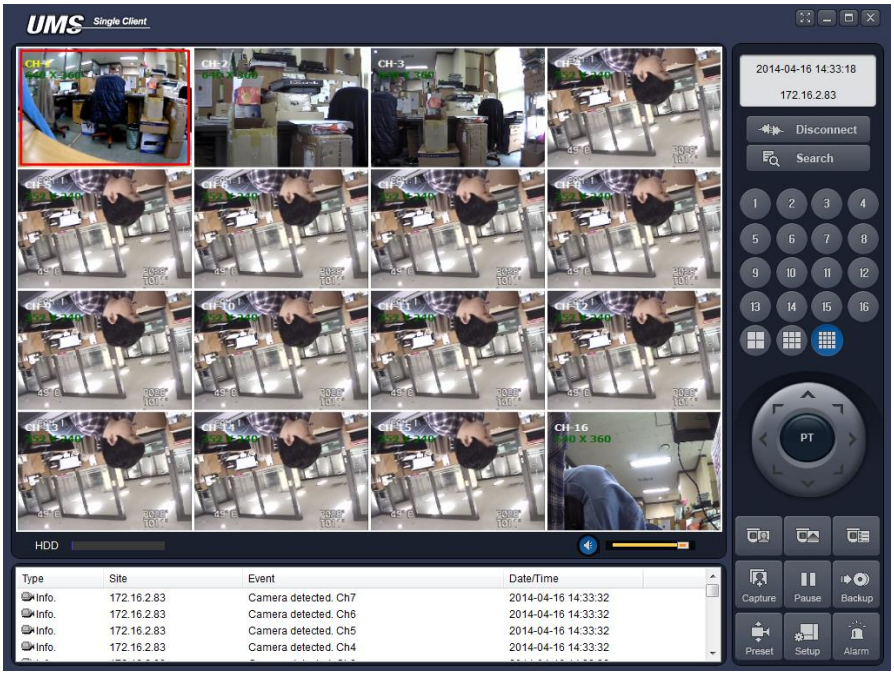
5. The setup status screen is displayed.

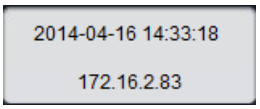
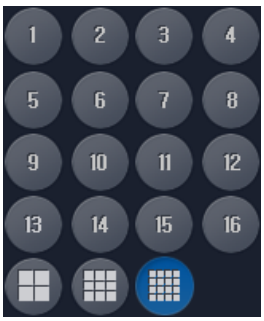


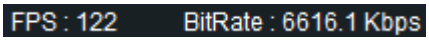
After the installation is completed, **“UMS Client”**

icon is displayed on the desktop.

8-3. Live monitoring mode and functions.

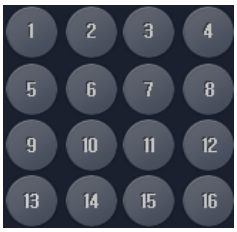


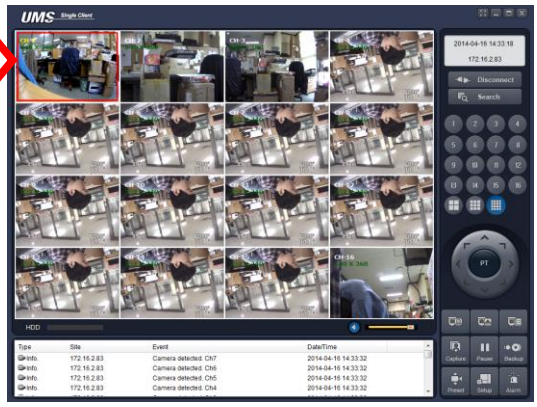
Button	Function	Description
	**DATE & TIME**	Displays the current date and time.
	CONNECT/DISCONNECT	Connect/disconnect network connection.
	SEARCH	Switches the live mode to search mode.
	**DISPLAY MODE**	Select a channel and screen display mode.
	PAN/TILT/ZOOM/ FOCUS	Control the PAN / TILT / ZOOM / FOCUS features on the remote camera.
	CAPTURE	Capture a still image from live screen.
	PLAY/PAUSE	Play/pause live video.
	BACKUP	To start and stop manual recording
	PRESET	Select the Preset Number
	SETUP	Display the setup screen of the network viewer

	ALARM	The ON/OFF button of the alarm output of the DVR. When an alarm of the DVR is output, this button becomes Red.
	HDD USAGE	DVR HDD storage Indicator.
	**NETWORK BANDWIDTH**	Shows the transferred frames and network bandwidth.
	AUDIO	Adjust the volume. The audio can be turned on or off by clicking the audio icon.
	LOG WINDOW	Display the connection status of DVR

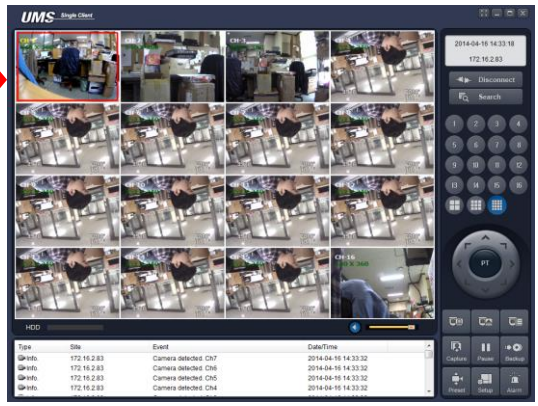
Operations of the display mode of the main screen

■ Single channel display - Click the one of channel button or double-click the channel screen.





■ QUAD/-screen display - Click the QUAD button to switch to quad-screen display



■ Full screen display - Click the maximize button to display only screen and hidden the operation panel.

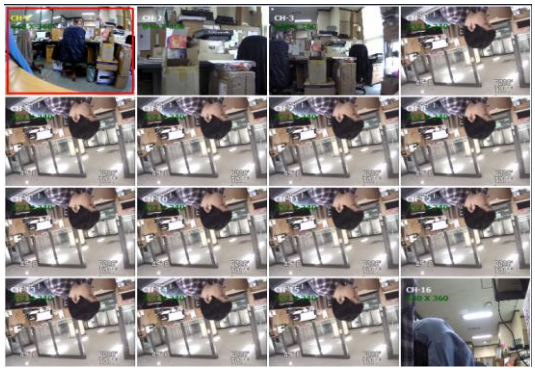
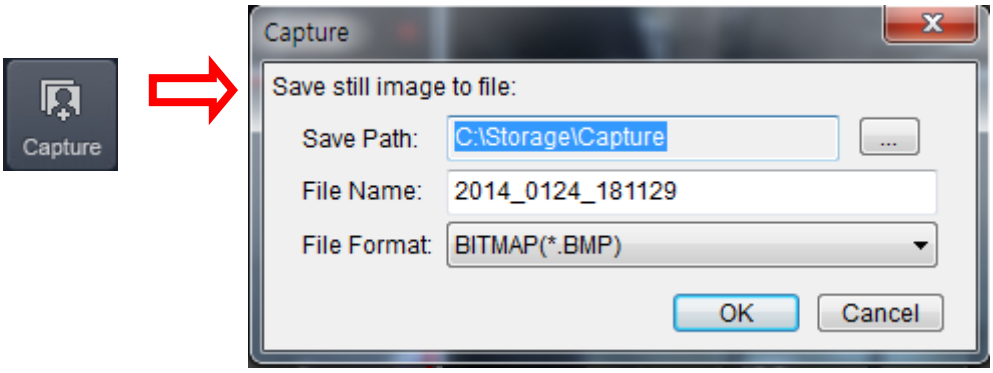


Image capture of live screen

Still-image of live screen can be captured and saved as BMP or JPEG file.

1. Click the channel to be captured. Then the channel screen is surrounded with a red line.
2. Click the CAPTURE button. Then the IMAGE CAPTURE dialog is displayed.



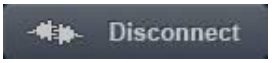
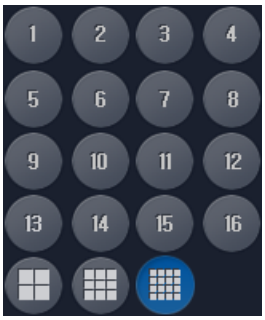
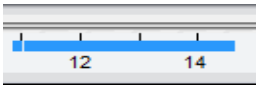
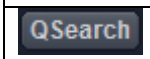
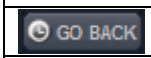
3. Set the conditions and click OK button. Then still-image is saved.

8-4. Bi directional audio

The UMS Client allows for bi directional audio between the client and a DVR unit. On the PC, to use bi directional audio, you will need a sound card of handling a microphone and speakers. On the DVR side, you will need to connect a microphone to the audio in connection, and a pair of amplified speakers to the audio out connection.

8-5. Remote search mode and functions

Button	Function	Description
2014-04-16 14:33:18 172.16.2.83	**DATE & TIME**	Displays the recording time of the data selected on the time bar at the bottom of the main user interface.

	**DISCONNECT**	Disconnect network connection..
	LIVE	Switches the search mode to live mode.
	**DISPLAY MODE**	Select a channel and screen display mode.
	SEARCH CALENDAR	The calendar shows dates with recorded video in a light blue and the selected date in dark blue.
	CAPTURE	Capture a still image from live screen.
	MARK IN	Set the start time for video backup.
	MARK OUT	Set the ending time for video backup.
	SETUP	Display the setup screen of the network viewer
	BACKUP	Backup the selected recorded video as AVI format.
	**TIMELINE BAR**	The timeline shows recorded data in dark blue on the bar.
	PLAYBACK BUTTON	The playback buttons.
	PC/DVR	Select the play button on the remote and local playback
	**QSearch**	Thumbnail search over the network. - List the thumbnail 24images from 00:00 to 23:00. - Select one of 24 images every 150sec for an hour. - Then play the tile * Click the “PREVIOUS” button to go the previous step.
	**GO BACK**	Time search settings
	TIME LINE	To change a timeline scale from 24 hours to 60 minutes.

		The timeline shows recorded data in color on the bar. You can adjust the timeline scale and move it to the time you wish to playback. Then click the play icon to display the recorded video.
All	**CHANNEL**	To display the recorded data of selected channel or all channels on a time line scale.

Searching and playing video in the remote DVR

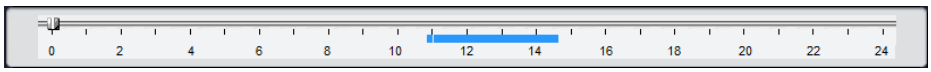
Video recorded in the remote DVR or Video recorded on the PC can be searched and played back.

1. Connect the network to the remote DVR and press SEARCH button. Then the mode is changed from the live mode to the search mode.

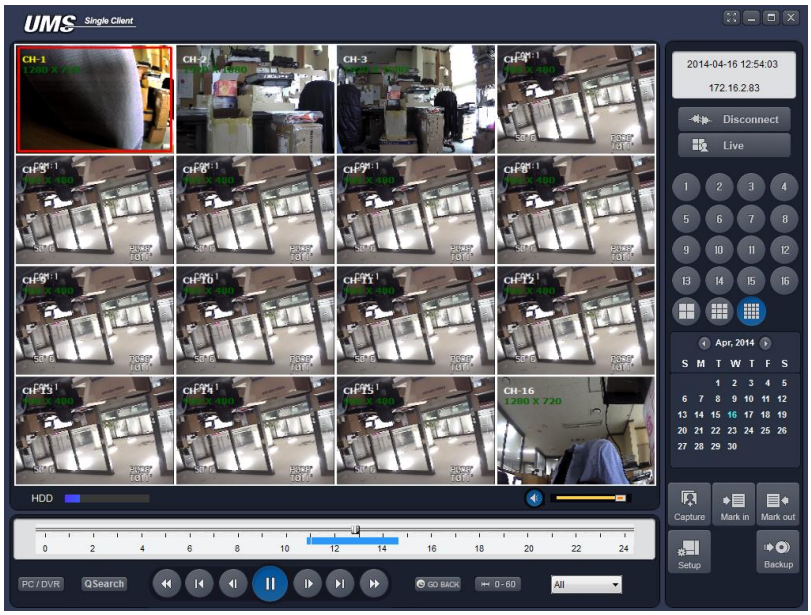
   - Searching the video recorded in the remote DVR: Connect the network to the DVR.
   - Searching the video recorded in the PC: Do not connect the network to the DVR.

2. Select the date to search the video.

3. Drag the slid on the time scale and drop it between 0 to 24.



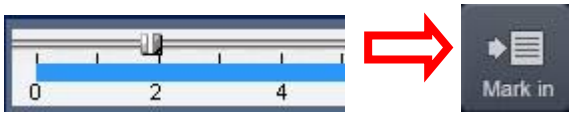
4. Press the PLAY button. Then the video recorded in the remote DVR is played back.



Backup of video in the remote DVR

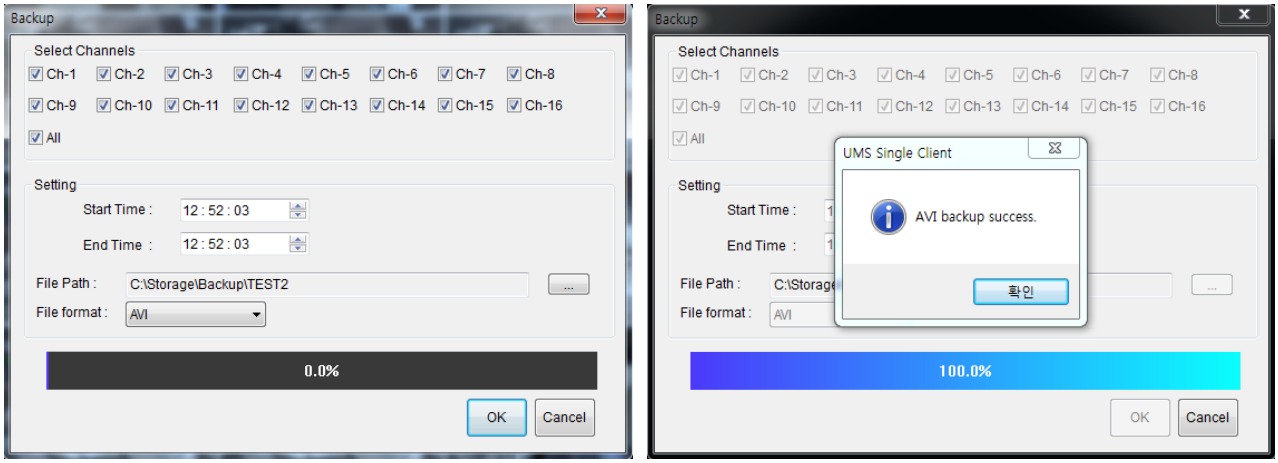
Video recorded in the remote DVR cab be backed up on the PC HDD as AVI format.

1. Connect the network to the remote DVR and play the video recorded in the remote DVR.
2. Drag the slid on the time scale and drop to the start time for video backup and press the MARK IN button.



3. Drag the slid on the time scale and drop to the end time for video backup and press the MARK OUT button. Then the marked time is displayed in dark green.

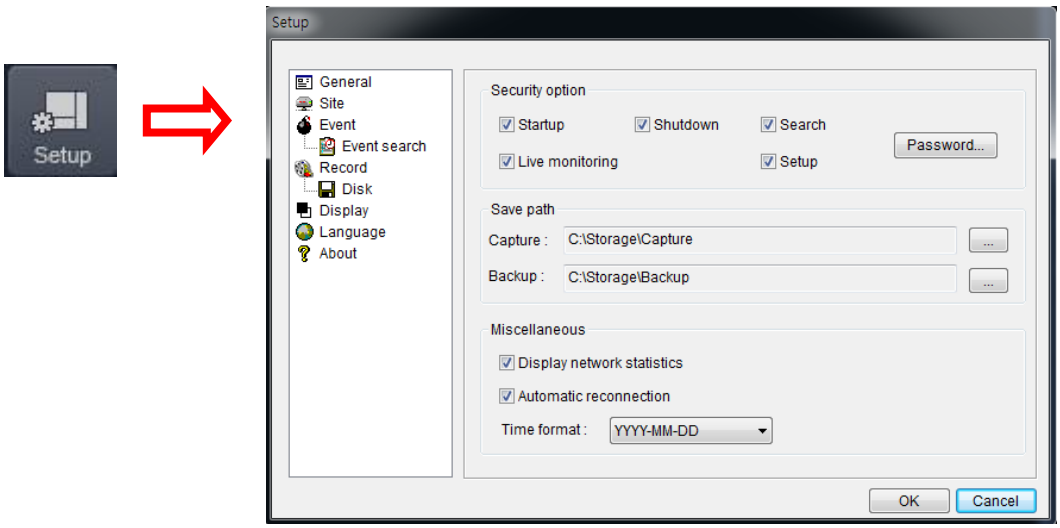
4. AVI Backup dialog is displayed. Click the OK button. Then the marked video is backed up.



- Start time / Stop time: Backup time can be changed.
- File path: Shows the folder that the backup file is recorded.
- Channel: Shows backup channel.

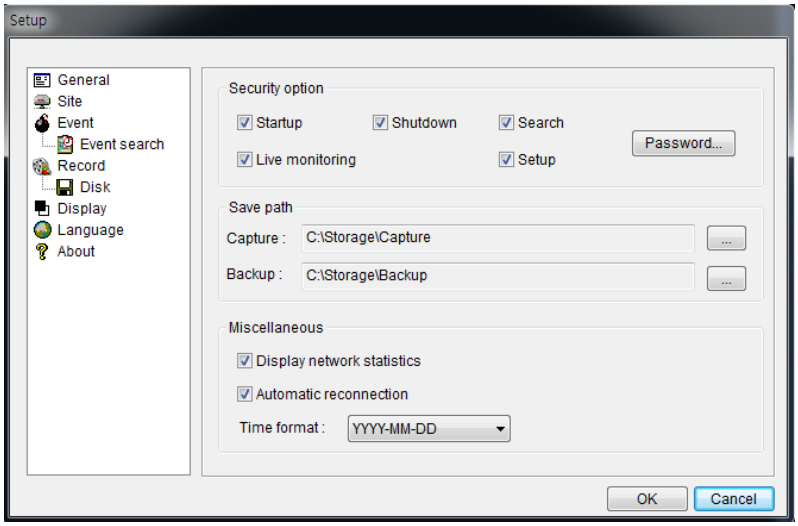
8-6. PC System configuration

Click the SETUP button. Then the Setup dialog is displayed.



Setting General

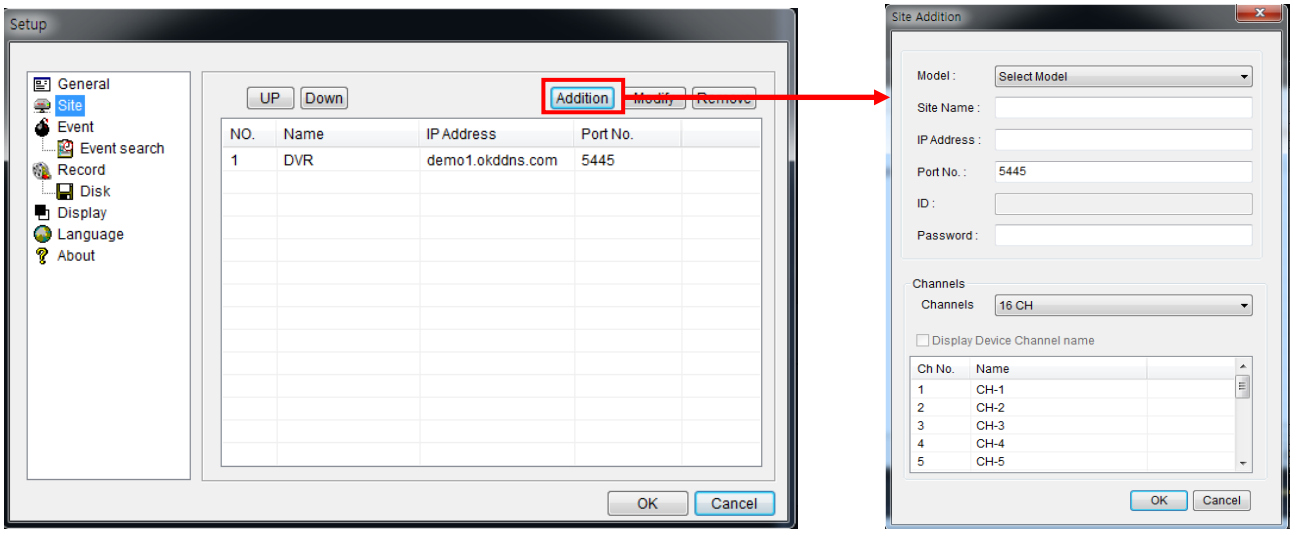
Set the Security Option, Save Path, and Miscellaneous.



- **Security Option**: Set a password for security options. When you access any of the selected functions, you will need to enter the password.
- **Save Path**: Specify the location to record for backup and still image capture.
- **Automatic reconnection**: If a user selects this function, the client S/W will automatically try to connect to the previously connected IP address if the network connection is lost.
- **Display network statistics**: If a user selects this function, the client S/W will display network status, Bit rate and Frame rate.
- **Time Format**: Change the mode the Client software displays the time.

Setting Site

The remote DVRs can be added, modified, and removed.



Click ADDITION button. And then the following window will be displayed as below.

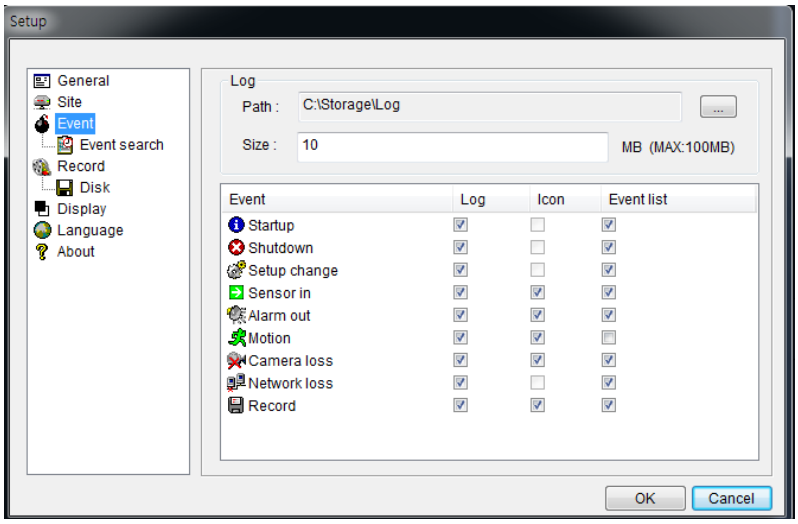
- **Site Name:** Input a name that properly describes a site.
- **IP Address:** Input IP address (Public IP address of a router that DVR is connected.) or Domain name
- **Port Number: Default Port Number is "5445".**

- **ID:** Input ID of DVR. **Default ID is “admin”.**
- **Password:** Input network password of DVR. **Default Password is “1111”.**

Click OK button. And then the registered site is added on the directory window.

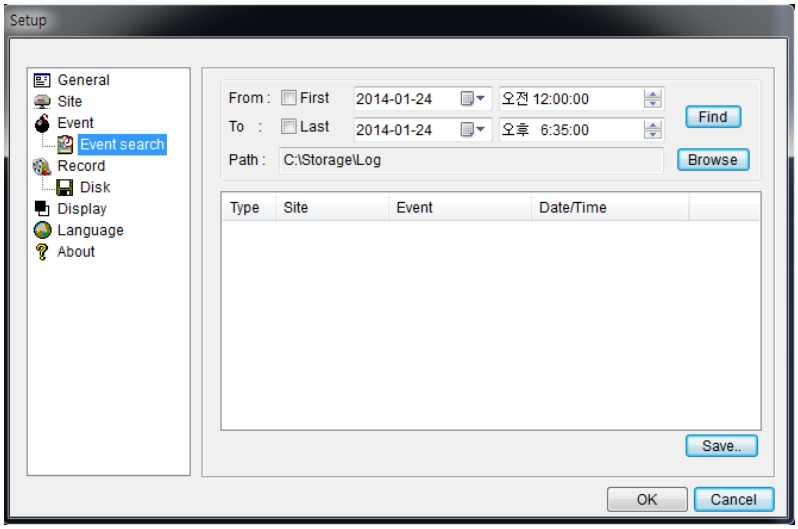
Setting Event

Set the record path and the size of local disk space for the log files.



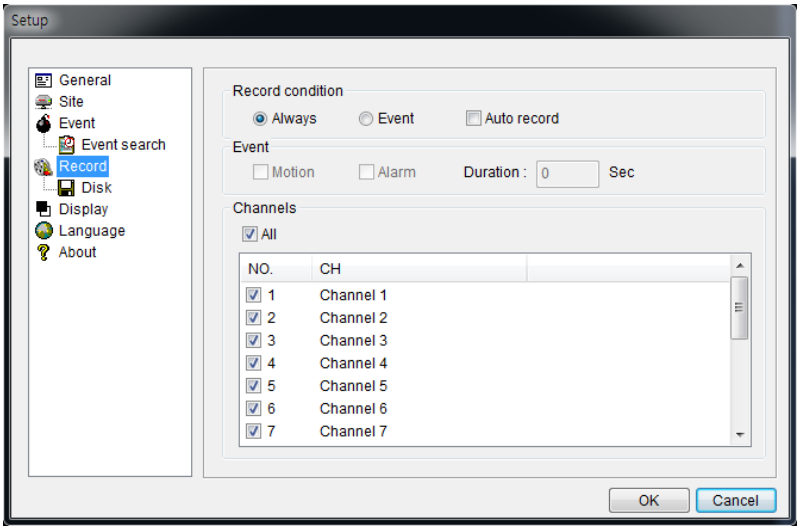
- LOG – Select to save event log into ‘log file’.
- ICON – Select to display the event on live video.
- EVENT LIST – Select to show the event in the ‘Event List” window of live mode.

Event Search: Event log can be searched from the selected time.

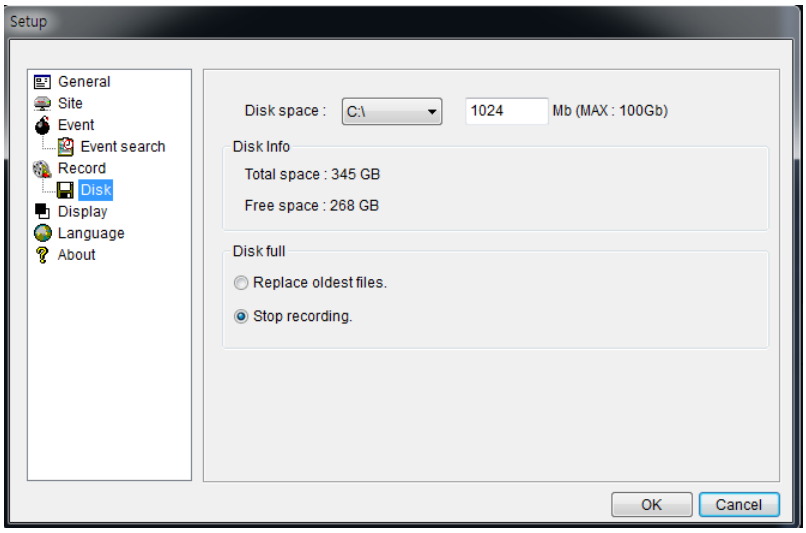


Setting Record

Record Setup: You can set the recording conditions as the following; Always, Event, or Auto record. And you can also select target DVR/DVRs and channel/channels When you set the recording condition to event, you can set event for motion or alarm with duration.

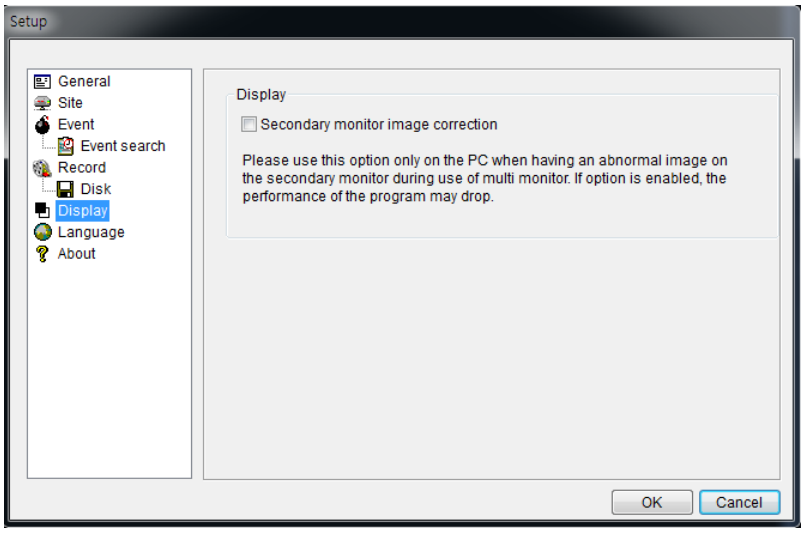


Record Local Storage Setup: You can select the local disk to record and the amount of disk space you want to allow the program to use for recording. You can also select the option to overwrite data or stop recording when the maximum amount of disk space is full.



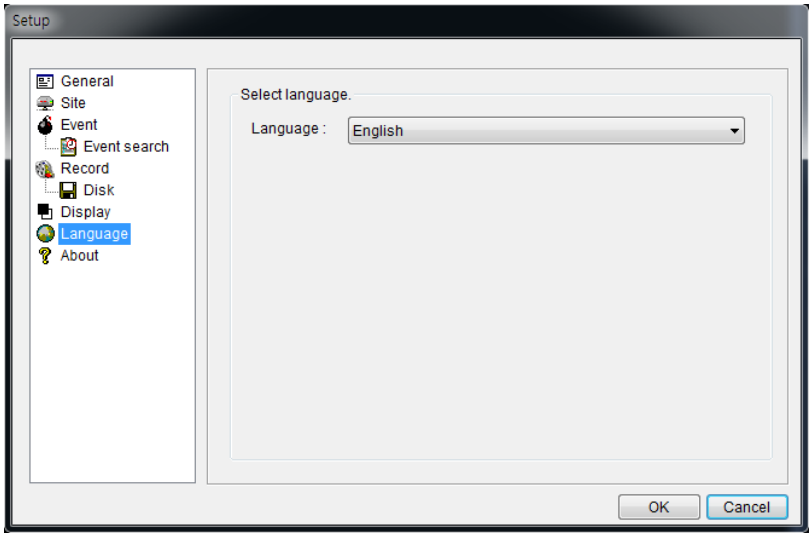
Setting Secondary Monitor

Used to calibrate the second monitor image.



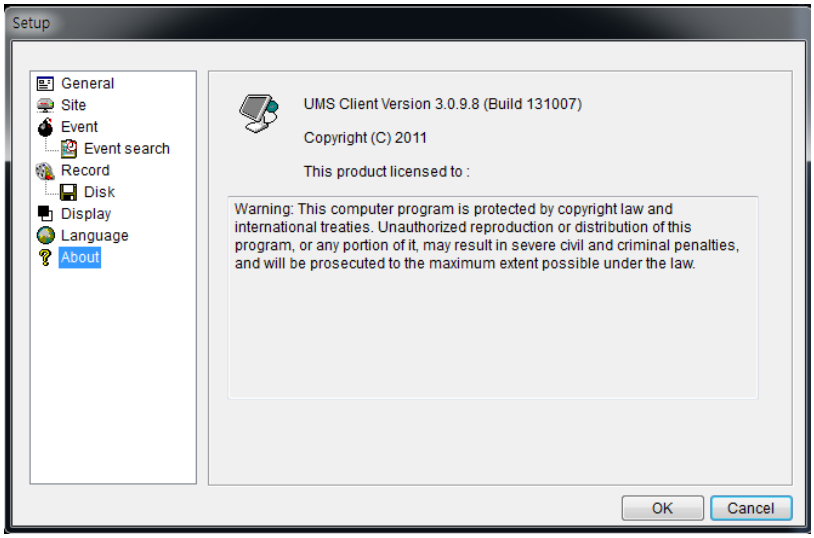
Setting Language

English, French and Spanish is selectable.

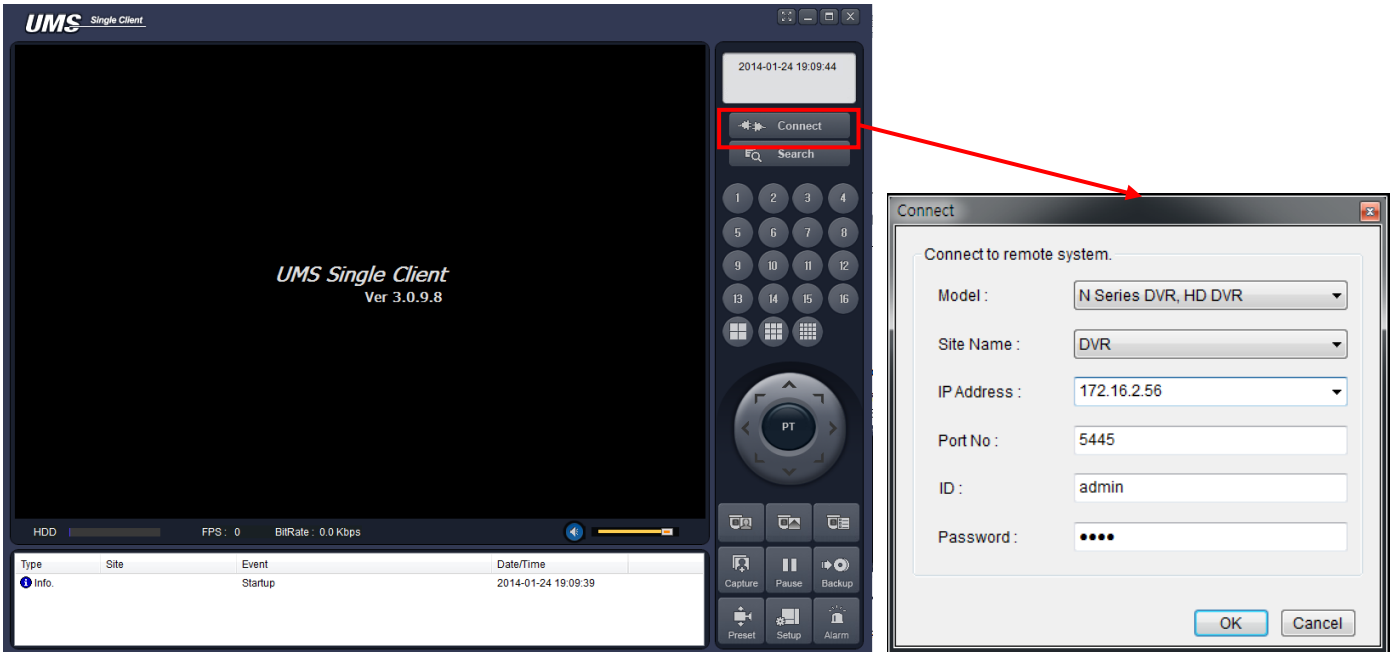


About

“About” provides network client version information.


Setup
General
Site
Event
Event search
Record
Disk
Display
Language
About
UMS Client Version 3.0.9.8 (Build 131007)
Copyright (C) 2011
This product licensed to :
Warning: This computer program is protected by copyright law and international treaties. Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.
OK
Cancel

8-7. UMS Client Connection



Click

CONNECT button to appear on the site registered under the ”OK” button is pressed, the connection to the site.

If you want to connect directly to an IP address or Domain address to “OK” button

.

9. Network access using the Exclusive network viewer, UMS Multi

9-1. Overview

The UMS Multi-Client is a multiple site monitoring client software with; video, audio, and alarm signals from the DVRs over networks. The UMS Multi-Client does not limit the number of DVR units to register.

The program displays to up 256 live videos on one display and even playback videos window on the same or another display monitor.

On the program, user may control PTZF cameras on the DVRs. By attaching a microphone and speaker system to devices on site, user may make bi-directional audio communication over the network.

9-2. Minimum PC requirements

Minimum PC Requirements

CPU	Intel Core i3
	1.8Ghz
Memory	2GB DDR2
VGA	512MB
Resolution	1280x720
Disk Space	1GB
OS	Windows 2000, XP Professional, XP Home, Vista, 7 (NOTE: Not all versions of Vista and 7 are supported)
Network	10/100Base T
Others	Direct X 9.0c or Higher

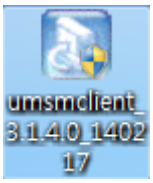
Recommended PC Requirements

CPU	Intel Core i5
	2Ghz or higher.
Memory	4GB DDR3 or higher.
VGA	512MB or higher.
Resolution	1920x1080
Disk Space	1GB
OS	Windows 2000, XP Professional, XP Home, Vista, 7 (NOTE: Not all versions of Vista and 7 are supported)
Network	10/100/1000Base T
Others	Direct X 10 or higher.

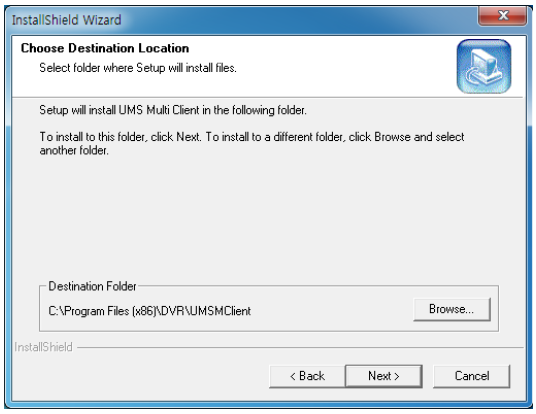
Before installing the program, check the PC specifications. The DVR remote software may not perform correctly if the PC does not meet the minimum requirements.

9-3. Installing the program

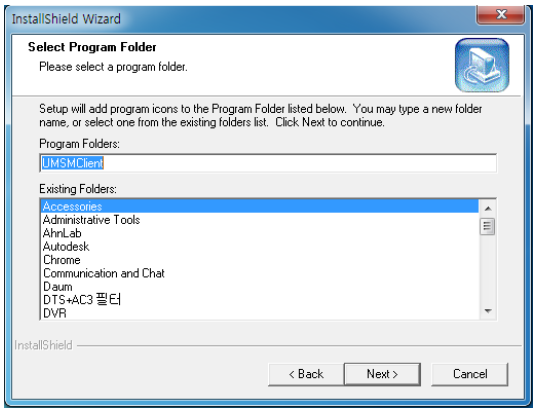
1. Insert the provided CD in the CD drive and double-click “UMSMultiClient (XXXX)**.exe**”



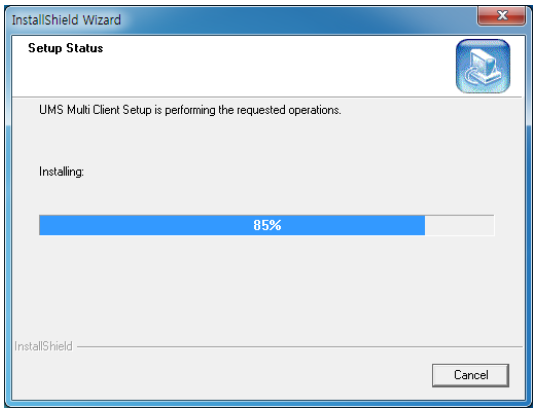
2. Select a destination folder and click “Next”.


InstallShield Wizard
Choose Destination Location
Select folder where Setup will install files.
Setup will install UMS Multi Client in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\Program Files (x86)\DVR\UMSMClient
Browse...
InstallShield
< Back
Next >
Cancel

3. Select the program folder and click “Next”.



4. The setup status screen is displayed.



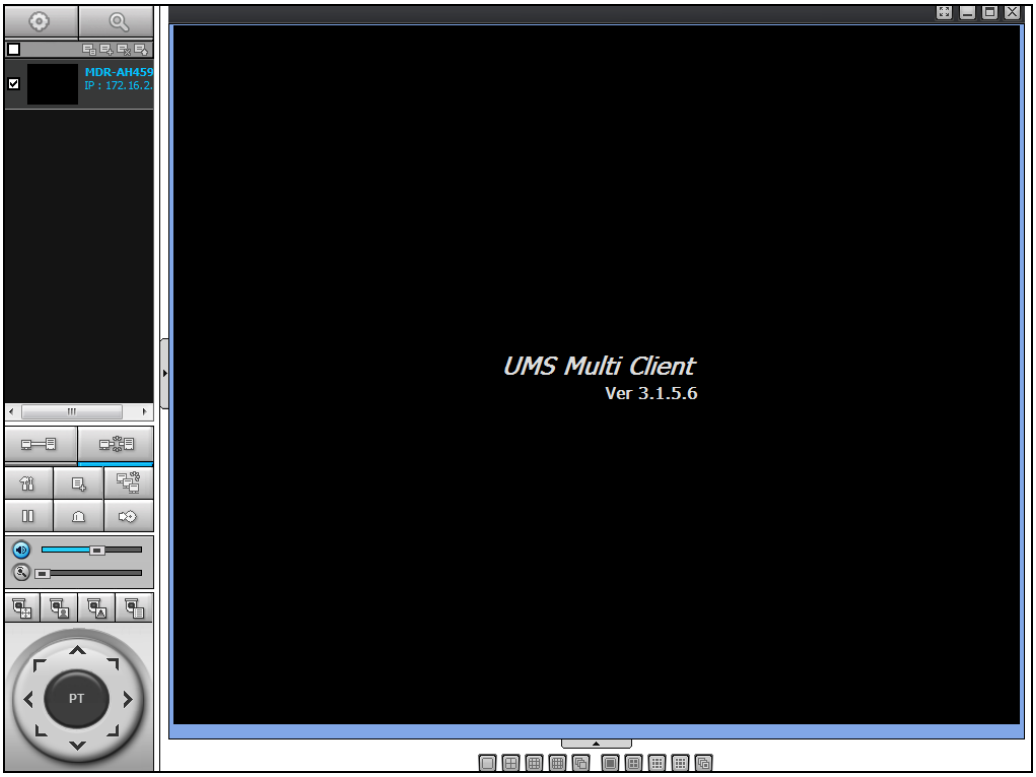
5. After the installation is completed,

icon displays on the desktop screen.

9-4. Live Window

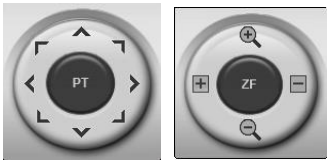
When installation is completed, double click the **"UMS Multi Client"** icon on your desktop to start the program.

9-4-1. Main user interface



9-4-2. Control buttons

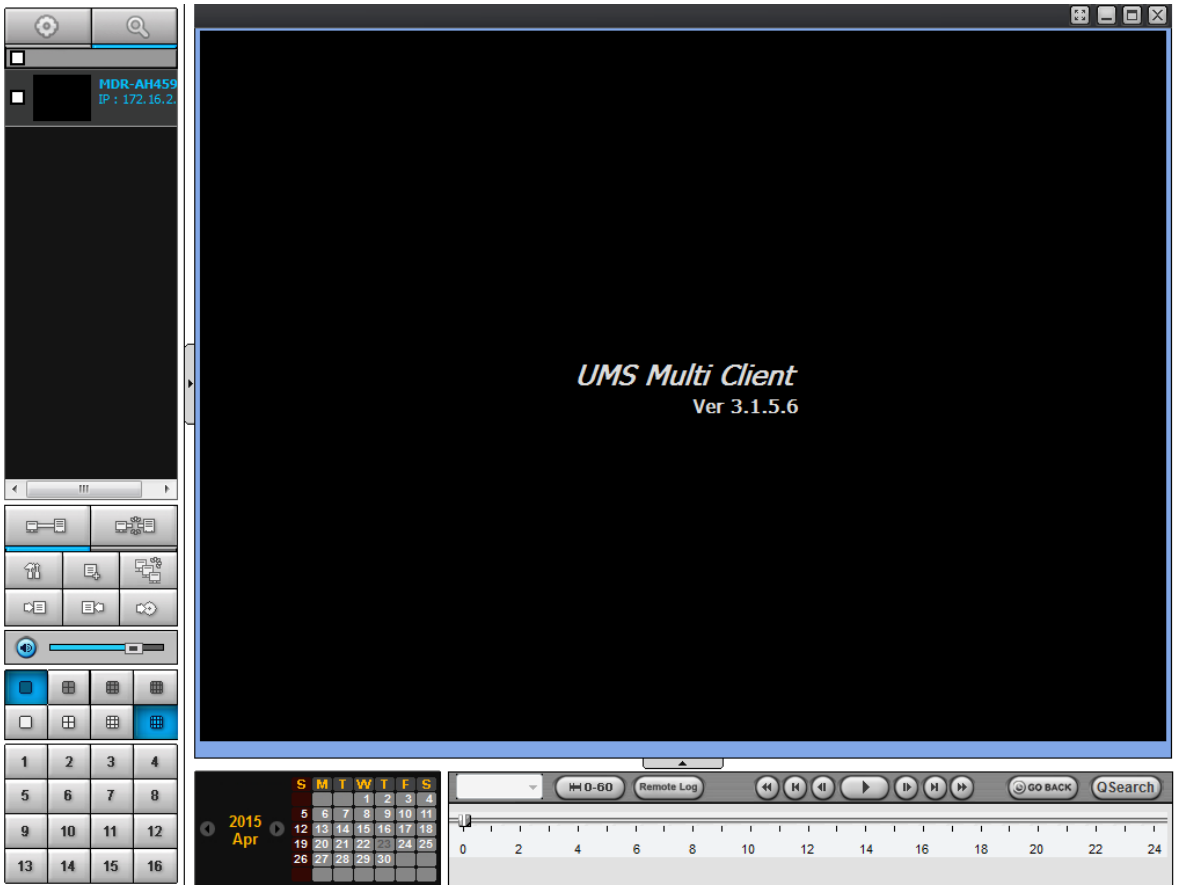
Button	Description
LOCAL PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in local PC.
REMOTE PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in remote DVR.
SITE MANAGEMENT	THUMBNAIL REFRESH: Click this icon to refresh and renew thumbnail image of every connected site. SITE ADDITION: Click this icon to open 'Site Addition' window. SITE DELETE: Click this icon to delete site from the index window, after disconnect a site. NET FINDER: Select the site from the index window and click this icon to modify the information of specific site.
CONNECT	Click this icon to connect the selected site/sites.

DISCONNECT	Click this icon to disconnect the selected site/sites.
SETUP	Click this icon to setup configuration of UMS MULTI CLIENT.
CAPTURE	Click this icon to capture a still image
EVENT LIST	Opens list of events logged by the UMS Multi Client.
PAUSE	Click this icon to play/pause live video.
ALARM ON	Click this icon to turn on/off alarm outputs.
RECORD ON	Enable or disable recording of live video to local disk which has set in setup menu.
AUDIO	Use the volume control bar to set the audio level.
MIC	Use the micro phone volume control bar to set the micro phone level.
PRESET/TOUR/SCAN/MENU	User can control PRESET/TOUR/SCAN/MENU
	User can control PAN/TILT & ZOON/FOCUS. PAN left /right TILT up/down ZOOM in/out FOCUS in/out
CHANNEL SPLIT	To select the numbers of display channel/channels (Single, quad, 9 channels, and 16 channels) of highlighted site.
DVR SITE SPLIT	To select the numbers of DVR on main display screen.

9-5. Search and Playback Window

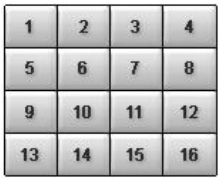
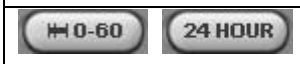
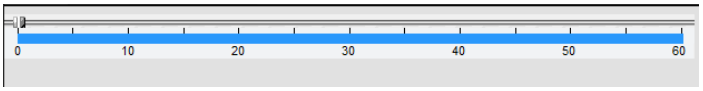
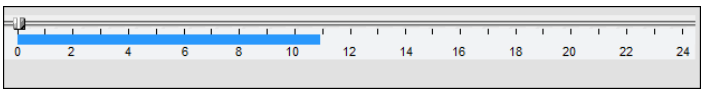
9-5-1. Main user interface

You can access to search window by clicking the search icon (Local Playback / Remote Playback) on the upper left of Live Window.



9-5-2. Main control panel

Button	Description
LOCAL PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in local PC.
REMOTE PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in remote DVR.
	Directory window shows site/sites that are pre-registered.
CONNECT	Click this icon to connect the selected site/sites.
DISCONNECT	Click this icon to disconnect the selected site/sites.
SETUP	Click this icon to setup configuration of UMS MULTI CLIENT.

CAPTURE	Click this icon to capture a still image.
EVENT LIST	Opens list of events logged by the UMS Multi Client.
MARK IN	Click this icon to set the beginning time for backup of the recorded video in AVI format.
MARK OUT	Click this icon to set the ending time for backup of the recorded video in AVI format.
BACKUP	Click this icon to backup the recorded video in AVI format.
AUDIO	Use the volume control bar to set the audio level.
DVR SITE SPLIT	To select the numbers of DVR/DVRs (1 DVR, 4 DVRs, 9 DVRs, 16 DVRs) on main display screen.
CHANNEL SPLIT	To select the numbers of display channel/channels (Single, quad, 9 channels, and 16 channels) of highlighted site.
	To select the channel to playback.
	The calendar shows dates with recorded video in color.
	To display the recorded data of selected channel or all channels on a time line scale.
	To change a timeline scale from 24 hours to 60 minutes.   The timeline shows recorded data in color on the bar. You can adjust the time line scale and move it to the time you wish to playback. Then click the play icon to display the recorded video.
	Playback buttons.
	Time search settings

QSearch	Thumbnail search over the network. - List the thumbnail 24images from 00:00 to 23:00. - Select one of 24 images every 150sec for an hour. - Then play the tile * Click the “PREVIOUS” button to go the previous step.

9-6. Setup of UMS Multi Client

Click the setup icon to setup the configuration of UMS Multi Client software. The Setup window displayed as below.

9-6-1. General

Security Option: Set a password for security options. Select security options and set a password. Then when you access any of selected functions, you need to enter the password. You can also set the save path for capturing and backup.

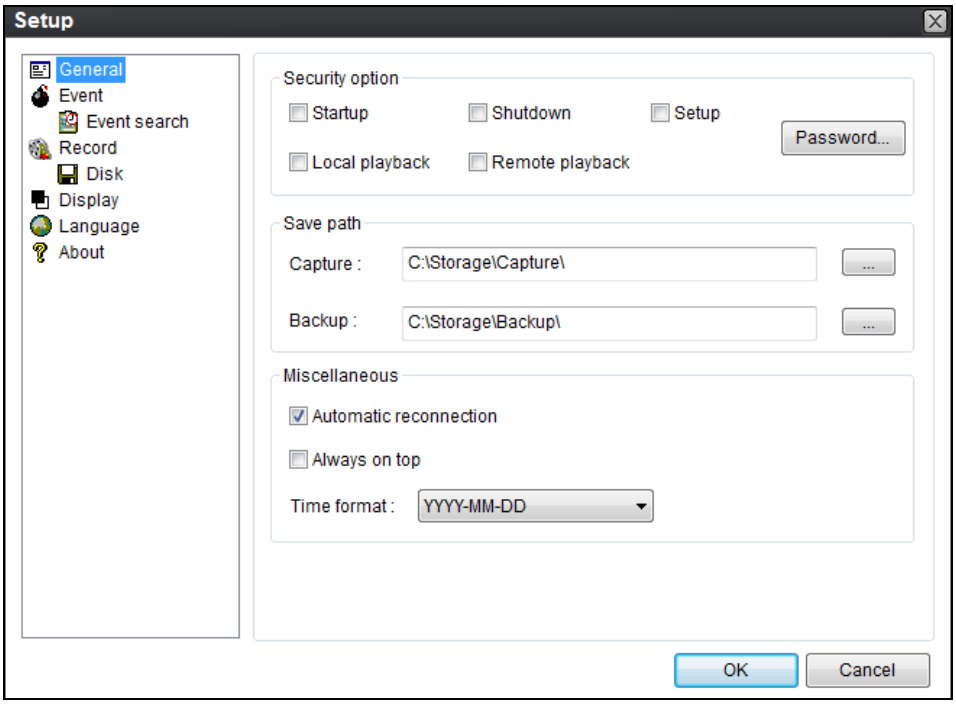
Save Path: Specify the location to save captured still image for Capture and Backup data.

Miscellaneous

Automatic Reconnection: If enabled, the software will automatically try to reconnect to the last successful IP address. But, when CLIENT ACCESS is OFF on the DVR, the software will not try to reconnect even if it is enabled.

Always On Top: If enabled, the software display will be continuously on the top of other windows.

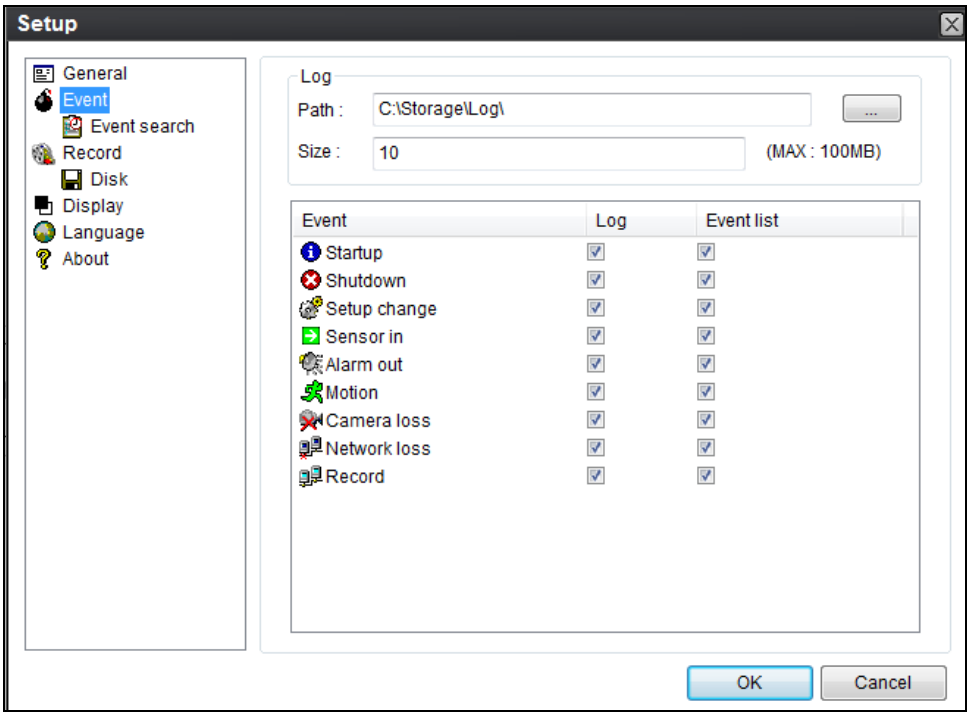
Time Format: Change the way the Client software displays the time.



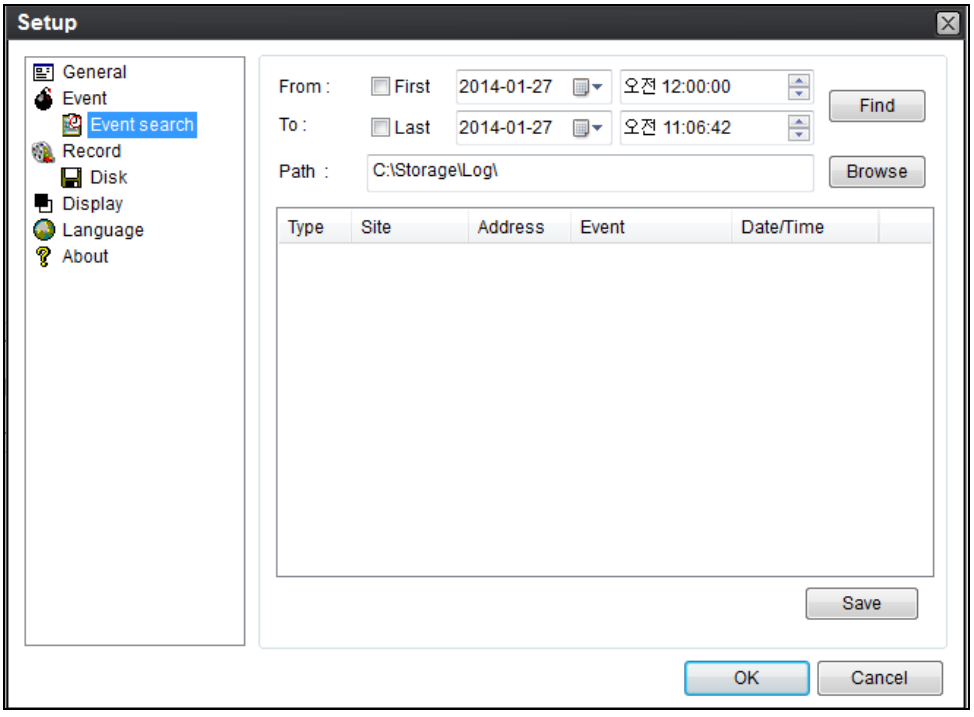
9-6-2. Event

Event log can be archived and searched.

Event Log: Specify the location to save event logs and select event to archive.

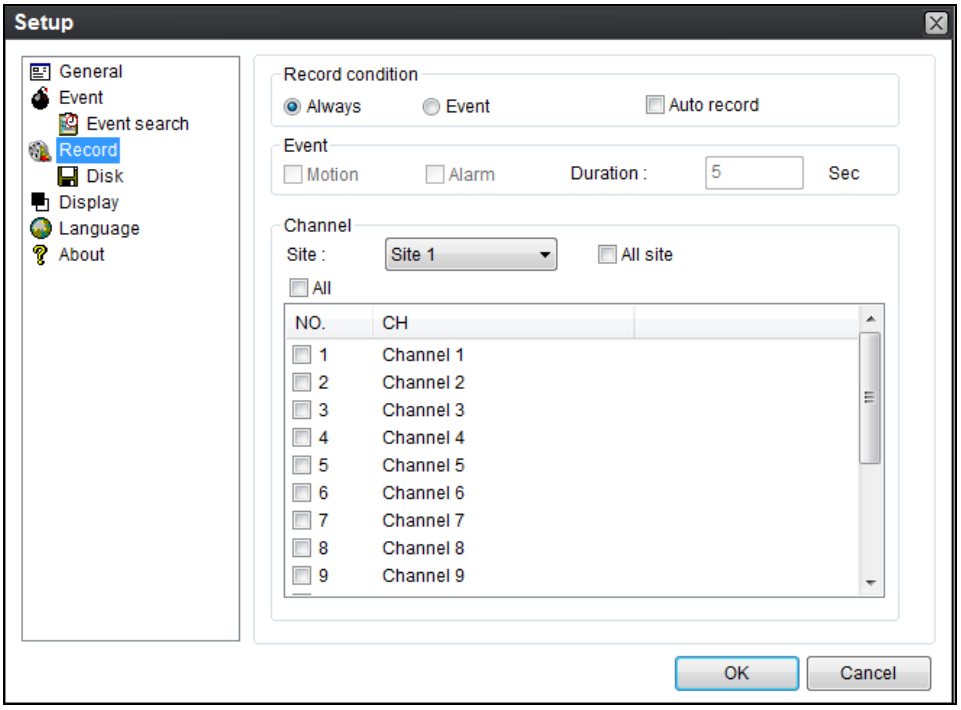


Event Search: Event log can be searched from the selected time.

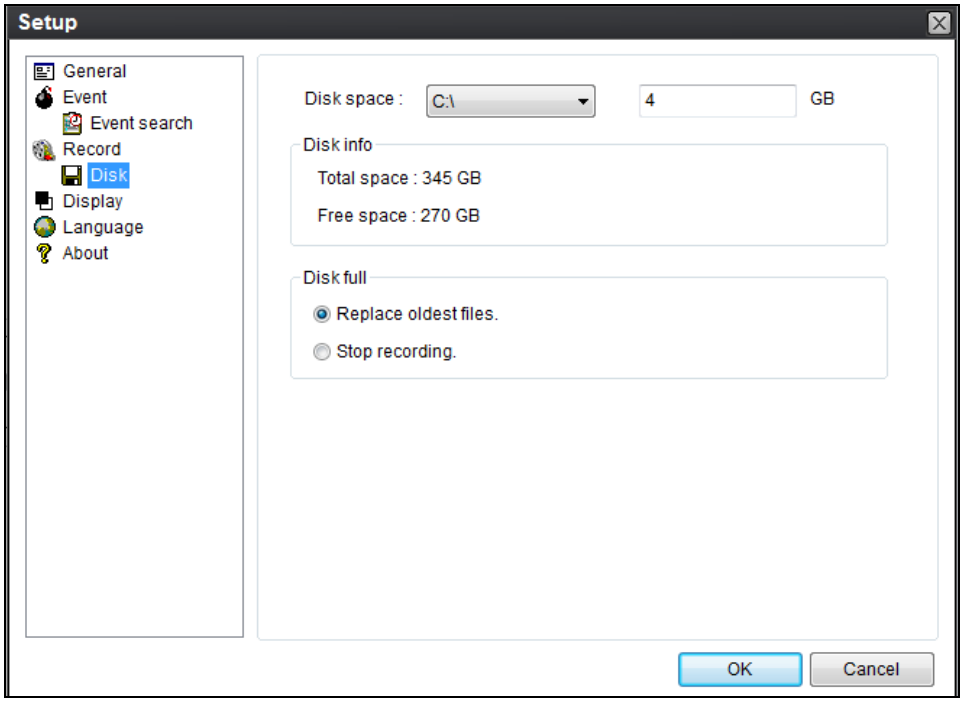


9-6-3. Record

Record Setup: You can set the recording conditions as the following; Always, Event, or Auto record. And you can also select target DVR/DVRs and channel/channels. When you set the recording condition to event, you can set event for motion or alarm with duration.

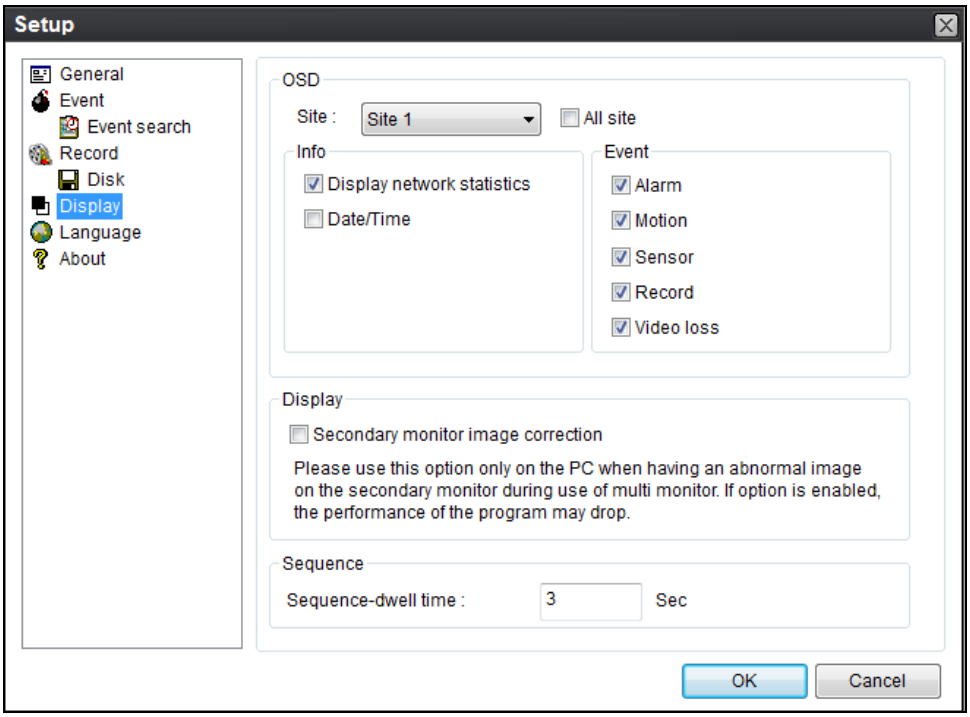


Record Local Storage Setup: You can select the local disk to record and the amount of disk space you want to allow the program to use for recording. You can also select the option to overwrite data or stop recording when the maximum amount of disk space is full.



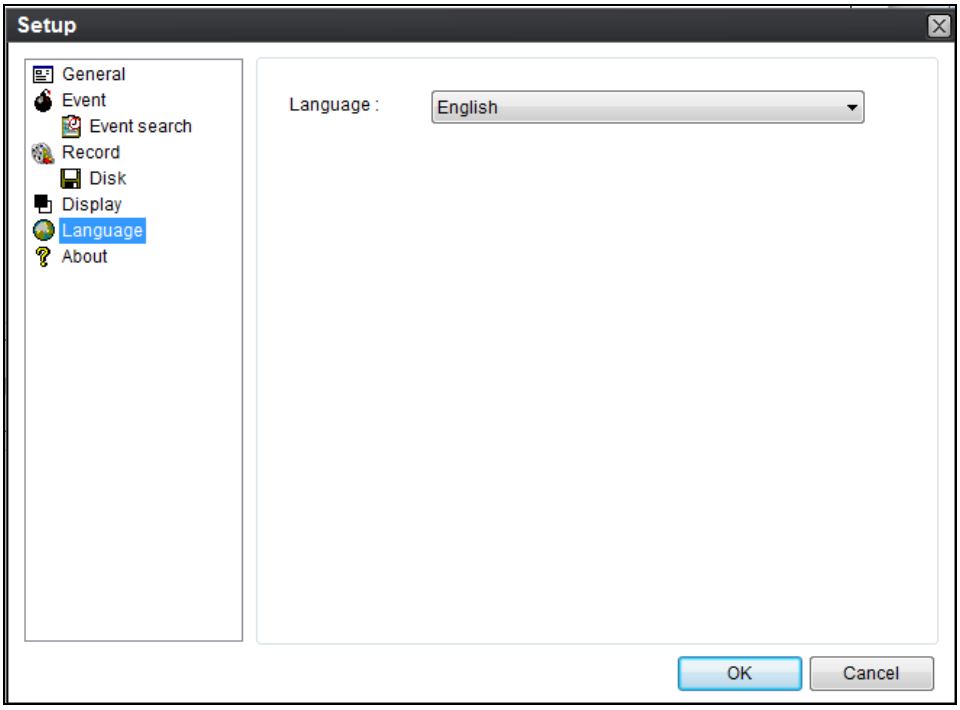
9-6-4. DISPLAY

You can select the OSD (On Screen Display) to be displayed.



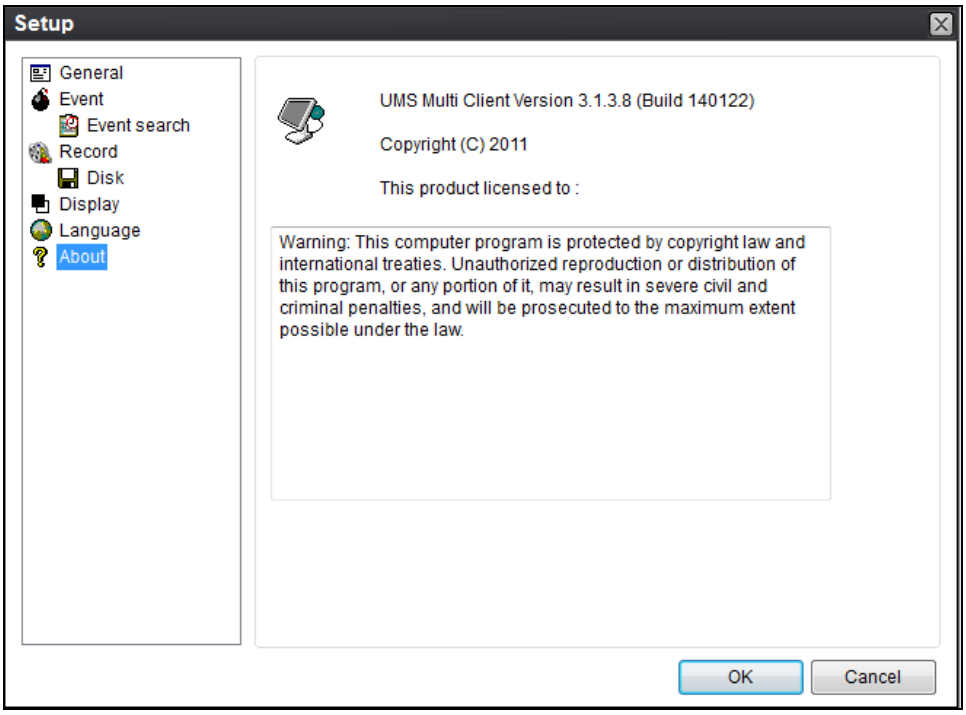
9-6-5. Language

You can select a language to be display.



9-6-6. About

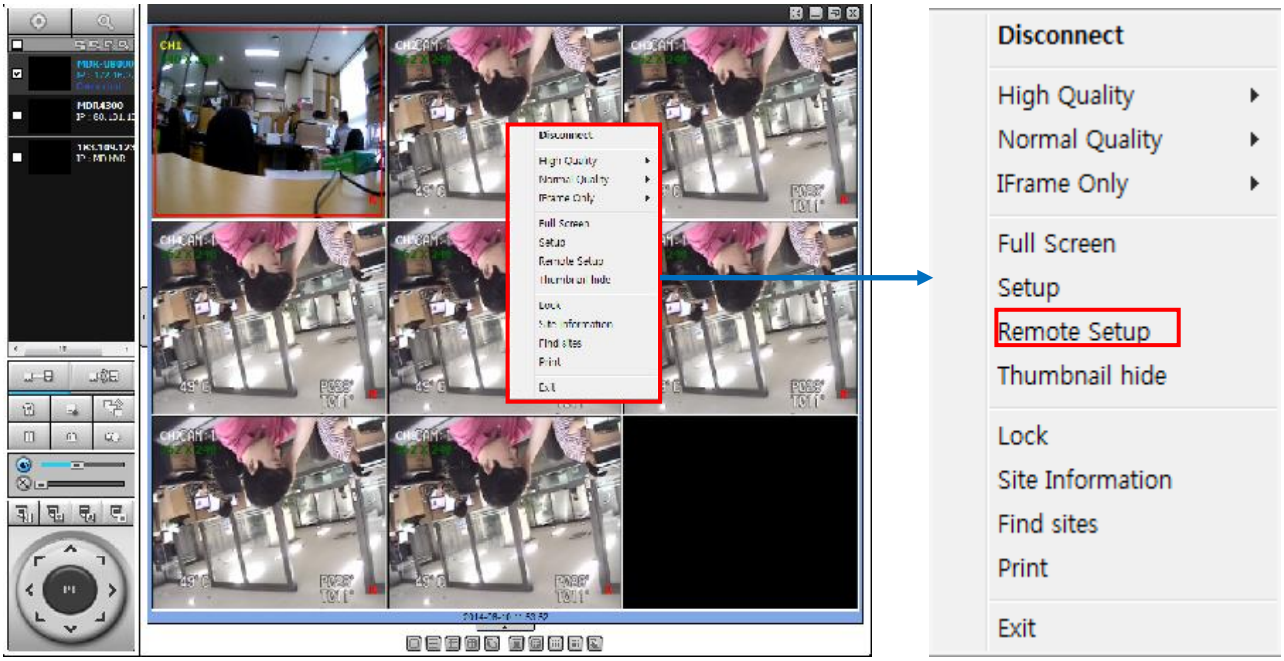
“About” provides network client version information.


Setup
General
Event
Event search
Record
Disk
Display
Language
About
UMS Multi Client Version 3.1.3.8 (Build 140122)
Copyright (C) 2011
This product licensed to :
Warning: This computer program is protected by copyright law and international treaties. Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.
OK
Cancel

9-7. Remote Setup

The menu settings for the DVR unit can be set over network.

Put the cursor of the mouse on the channel, which is connected to the site and right click on the mouse to open the submenu. Then the following window is displayed as below. Select the **REMOTE SETUP**.



Then the setup window is displayed. The specified menu screen is displayed on the upper left of the screen. Enter the password of the DVR when prompted. (NOTE: The default password is 1111)

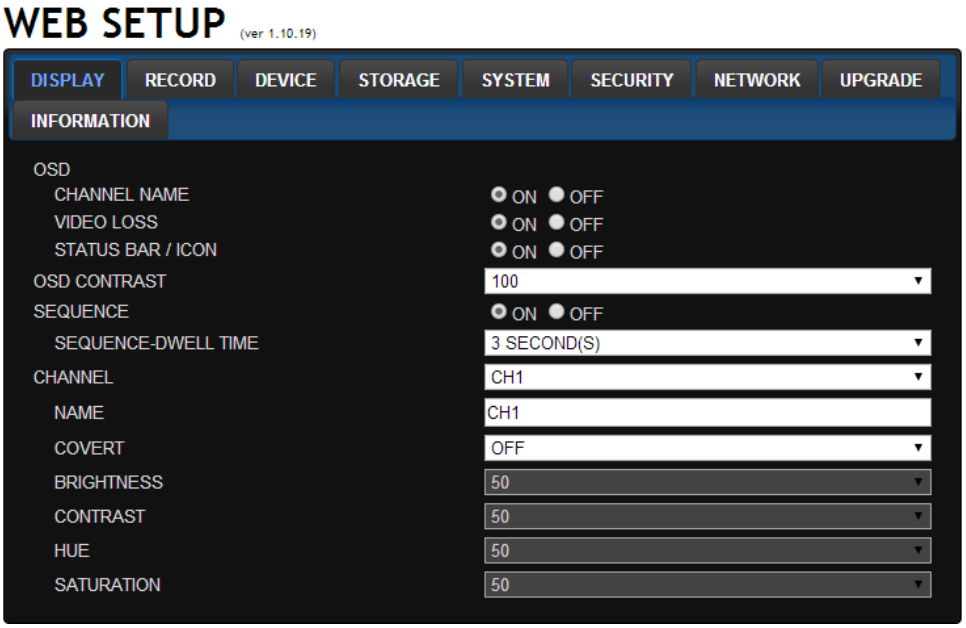
Setting is the same as with the DVR menu setting. Refer to the corresponding pages for details on the setting items.

NOTICE

Web Setup is prohibited when DVR is in local Setup Menu.

9-7-1. Display

Select the **DISPLAY** tab to set the DISPLAY conditions.



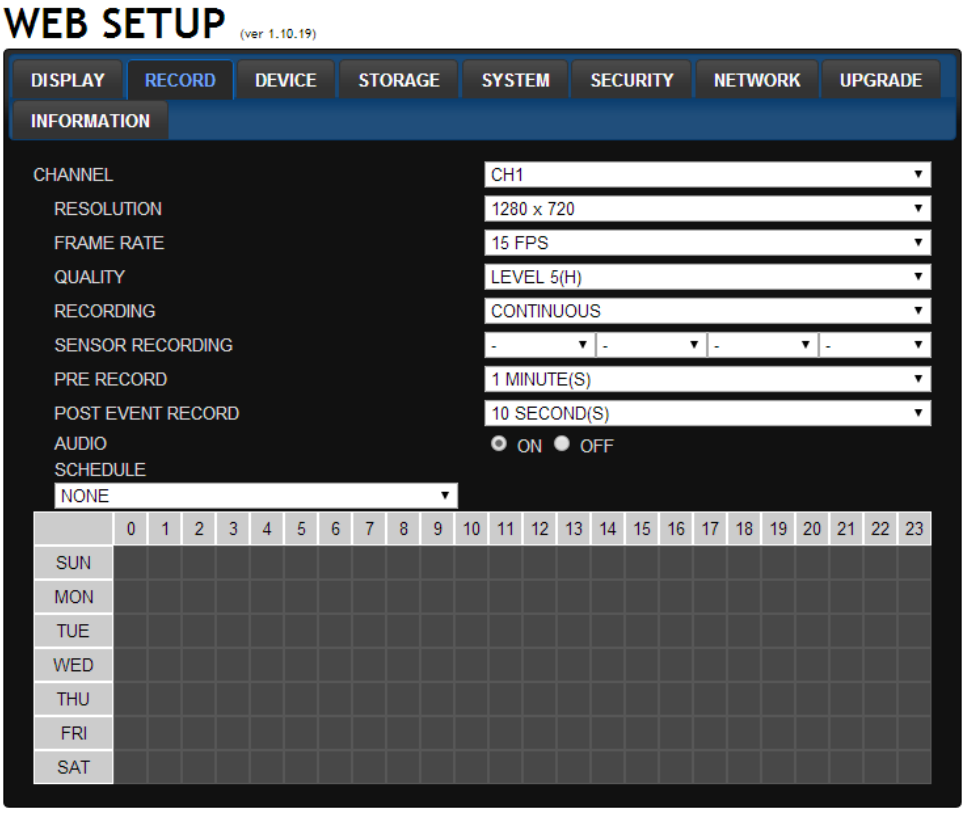
These settings apply to all channels.

- **OSD**: Sets whether to display or not date and time as well as channel number on the screen.
- **OSD CONTRAST**: Adjust the character contrast on the screen.
- **MAIN MONITOR SEQUENCE**: Setting for automatically switching the displayed video.

- **SEQUENCE DWELL TIME**: Sets the interval for automatically switching the screens.
- **CHANNEL**: Name, Covert, Brightness, Contrast, Hue, Saturation, These settings apply to the specified channel only.

9-7-2. Record

Select **RECORD** tab to set the recording conditions.

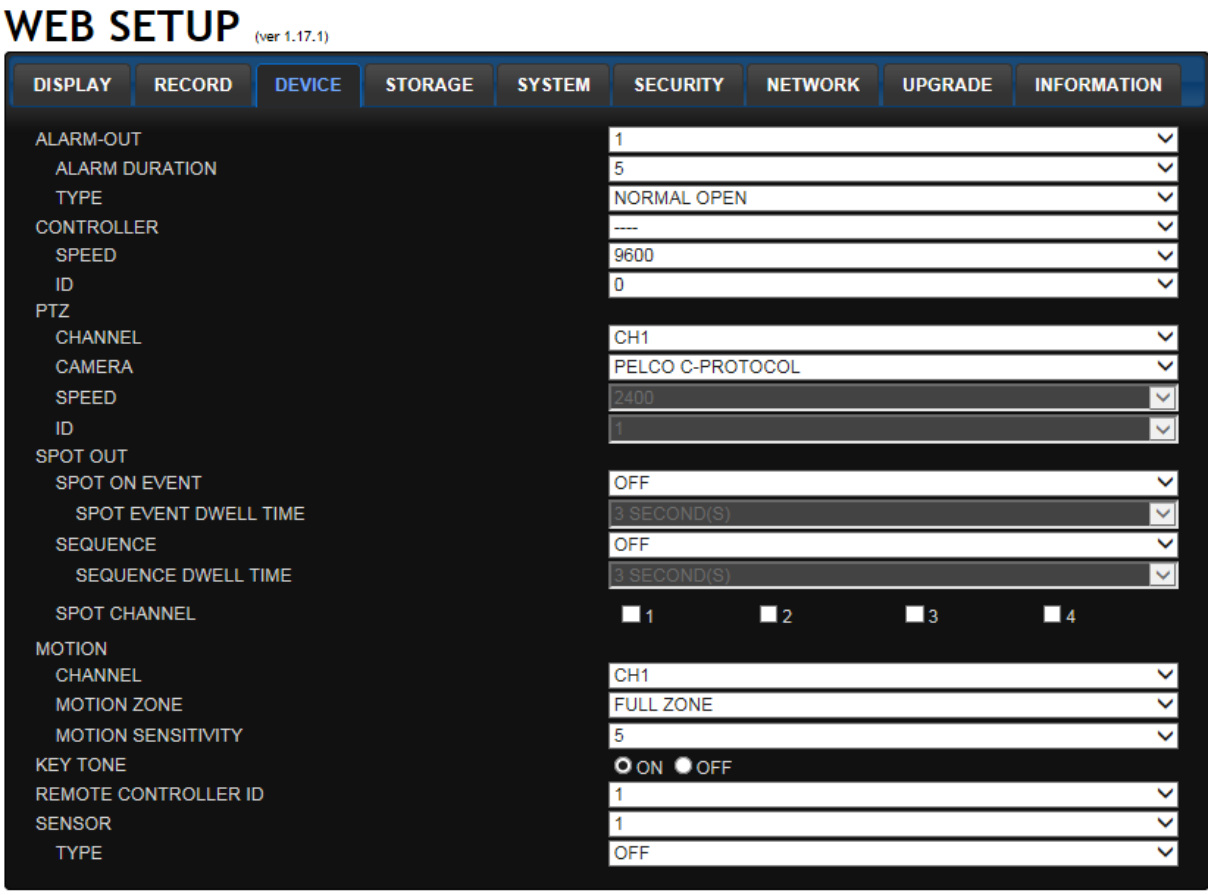


These settings apply to the specified channel only.

- Recording Setup
  - **RESOLUTION**: Sets the resolution for the recordings. The set value applies to an individual channel.
  - **FRAME RATE**: Sets the recording rate.
  - **QUALITY**: Sets the image quality in 5 levels.
  - **RECORDING**: Sets the recording mode.
  - **RECORDING MODE:** CONTINUOS, SCHEDULE, MOTION, SENSOR
  - **SENSOR RECORDING:** Select the sensor setting for the selected channel.
  - **PRE RECORD**: Sets whether to perform or not pre recording.
  - **POSE EVENT RECORD**: Sets the duration of the event recording.
  - **AUDIO**: Sets whether to perform or not audio recording.
  - **SECHDULE**: Sets the schedule recording.

9-7-3. Device

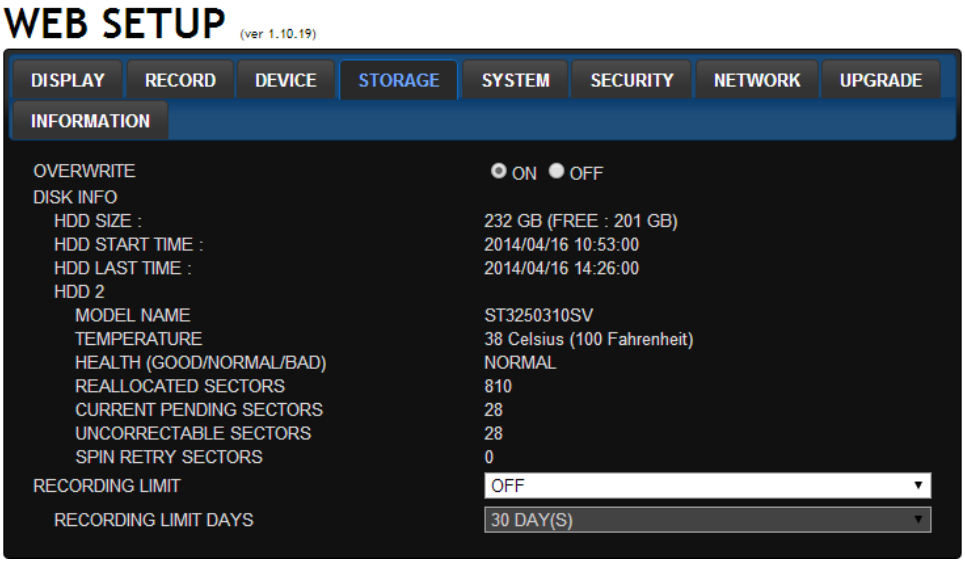
Select **Device** to set Alarm Out, Controller and PTZ, SPOT Out, Motion zone



- **ALARM OUT:** Set the Alarm Output Connector.
  - **ALARM DURATION:** Set alarm dwell time from 5 to 60 seconds or infinite.
- **CONTROLLER:** Set the controller baud rate and ID.
- **PTZ:** Set the PTZ baud rate, protocol, and ID.
- **SPOT OUT**
  - **SPOT ON EVENT :** Spot on/off
  - **SPOT EVENT DWELL TIME :** Set Spot dwell time
  - **SEQUENCE :** Set sequence
  - **SEQUENCE DWELL TIME :** Set sequence dwell time
  - **SPOT CHANNEL :** Select Spot Channel
- **MOTION:** Setup the motion detection area and the sensitivity.
  - **CHANNEL:** Select the channel
  - **MOTION ZONE:** FULL Zone or PARTIAL Zone
  - **MOTION SENSITIVITY:** 1~9 (High sensitivity level)
- **KEYTONE**: Sets On or Off of Key Tone.
- **REMOTE CONTROLLER ID**: Sets an ID number of which remote control to receive commands.
- **SENSOR:** Select the type of sensor.

9-7-4. Storage

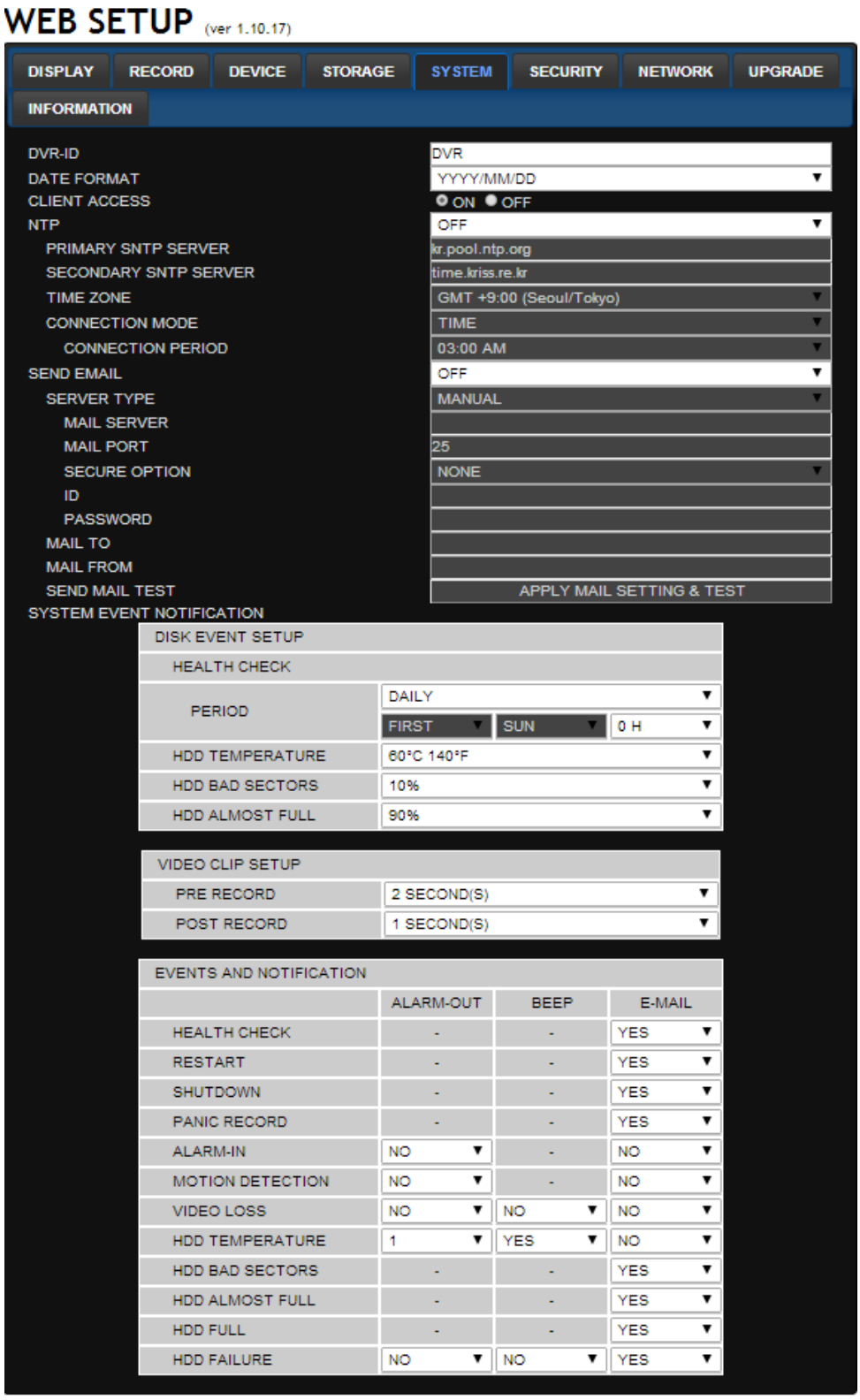
Select **Storage** to configure continued recording settings by overwriting the hard disk and the storage period for the recording data.



- **OVERWRITE**: Select on to continue recording by overwriting when the hard disk becomes full.
- **DISK INFO**: Hard drive information.
- **RECORD LIMIT**: Sets whether to limit or not the recording data storage period.

9-7-5. System

Select **System** to set system and time settings.



- **DATE FORMAT:** Select the date display format.
- **CLIENT ACCCESS:** Enable/Disable remote access through network client software.
- **NTP SETUP:** Sets whether to synchronize the time using NTP server or not.
  - **Primary SNTP Server**: Input the NTP primary server address.
  - **Secondary SNTP Server**: Input the NTP secondary server address.
  - **Time Zone**: Select the time zone.

- **Connection Mode**: Select the connection mode to NTP time server.

- **SEND E-Mail SETUP**: Sets whether to enable/disable e-mail sending function.
  - **SEVER TYPE:** Select GMAIL, HOTMAIL, AOL, YAHOO or MANUAL)
  - **MAIL SERVER:** Input the SMTP server name as well as the user ID and password.
  - **MAIL PORT:** Mail port setting.
  - **SEURE OPTION:** Select a secure mail server connection. **(SSL or TLS)**
  - **ID :** Email User ID
  - **PASSWORD :** Email User Password
  - **MAIL TO:** Input the appropriate email address to enable sending e-mail reports
  - **MAIL FROM (Return Mail Address)**: Set the source e-mail address to be notified to the destination.
- **SEND MAIL TEST** : E-mail settings sent a test mail to the registered account
- **SYSTEM EVENT NOTIFICATION**

  Allows the user to set EVENT NOFICIATION ON or OFF
  - **HEALTH CHECK**

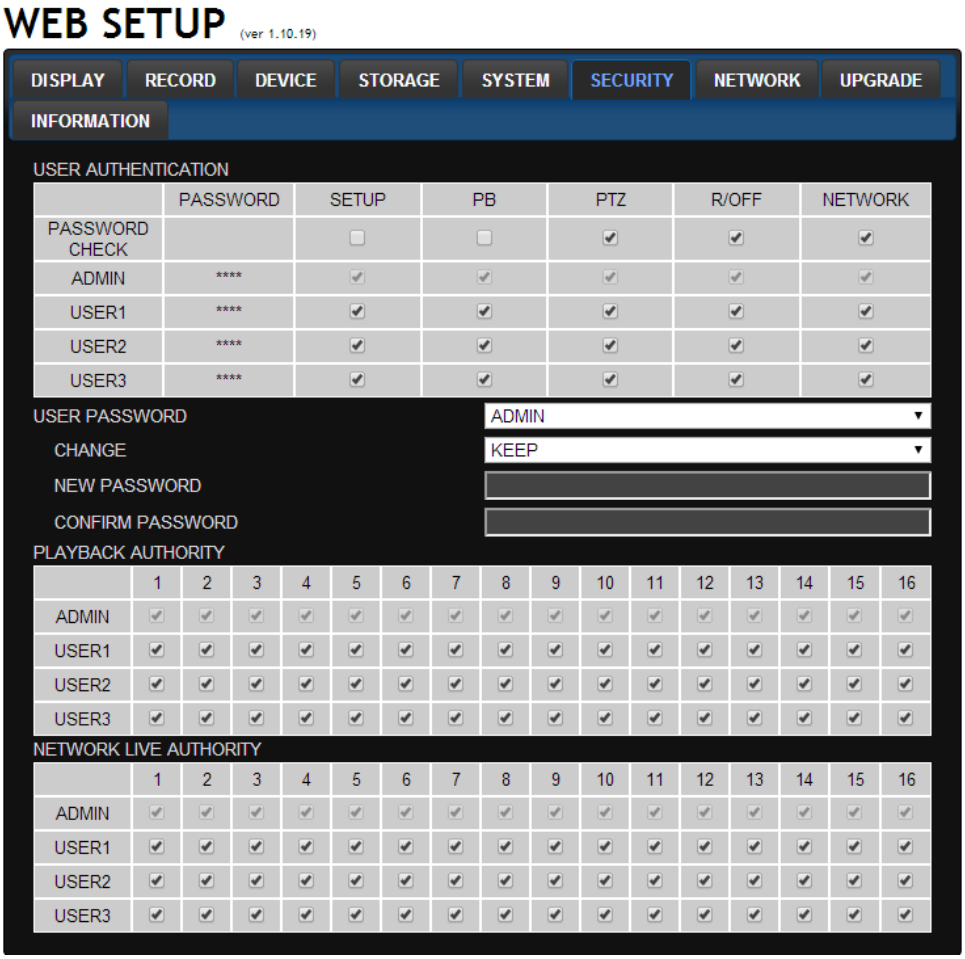
    (Allows the user to set MAIL STATUS periodically) : DAILY or WEELY or MONTHLY
  - **HDD TEMPERATURE**
  - **HDD BAD SECTOR**
  - **HDD ALMOST FULL**
  - **VIDEO CLIP SETUP:** Set video recording time for the e-mail appending

    Features motion detection or alarm input events only
  - **HEALTH CHECK / RESTART / SHUTDOWN / PANIC RECORD**

    Enable Email Notification in the event a problem occurs with the DVR.
  - **ALARM-IN** : Enable Email Notification when the camera detects sensor
  - **MOTION DETECTION** : Enable Email Notification when the camera detects motion
  - **VIDEO LOSS**: Enable Email Beep and Alarm output Notification when the camera signal is lost.
  - **HDD TEMPERATURE** : Enable Email Beep and Alarm output Notification when the HDD reaches the maximum temperature
  - **HDD BAD SECTOR**: Enable Email Notification when the HDD has bad sectors.
  - **HDD ALMOST FULL**: Enable Email Notification when the HDD is almost full.
  - **HDD FULL**: Enable Email Notification when the HDD is full.
  - **HDD FAILURE**: Enable Email, Beep and Alarm output Notification when the HDD fails.

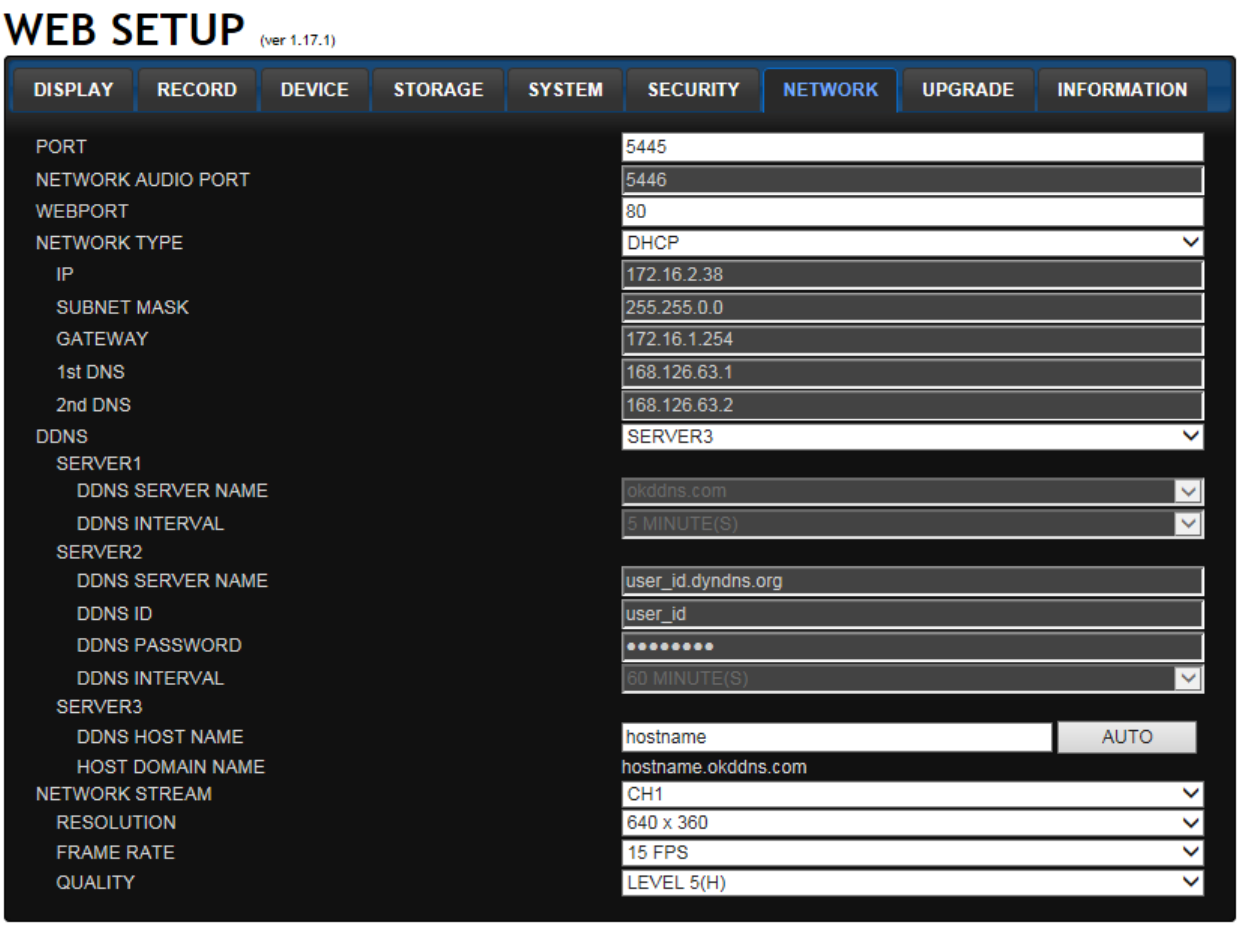
9-7-6. Security

Select the **Security** tab to set the DISPLAY conditions.



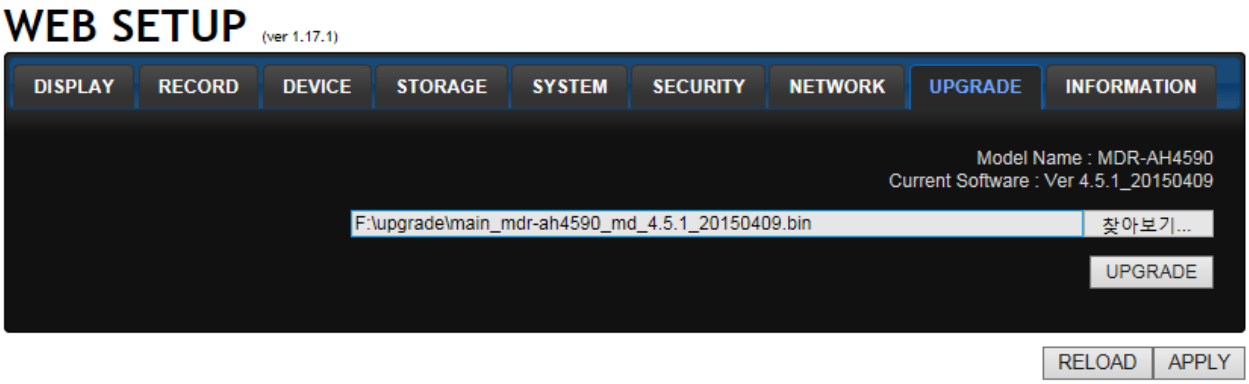
- **USER AUTHORITY**: Select which users have access to each function, password check can be implemented for each function accessed.
- **USER PASSWORD**: Select Username to change Password
  - **CHANGE:** Select whether to KEEP or CHANGE the current password.
  - **NEW PASSWORD:** Input NEW Password if CHANGE was selected.
  - **CONFIRM PASSWORD:** Input NEW Password again to confirm.
- **PLAYBACK AUTHORITY**: User can select which users have access to which channels.
- **NETWORK LIVE AUTHORITY**: Set authority level of Network Live on each user

9-7-7. Network



- **PORT:** When connecting multiple DVRs to the network, set a unique port number.
- **NETWORK AUDIO PORT:** Display the network audio port (NETWORK PORT + 1).
- **WEB PORT**: Set a web server port number.
- **NETWORK TYPE (*Cannot be altered remotely*)**
    - **STATIC**: The address setting mode is manual. Input IP, Gateway, Subnet Mask, and DNS IP.
    - **DHCP**: The address setting mode is automatic.
- **DDNS**: Set whether to use DDNS service or not
    - **HOST NAME: A**llows the user to setup a domain name manually
    - **SUMBIT/UPDATE:** Select ON to submit the settings
- **NETWORK STREAM:** Set the Resolution, Frame Rate, and the Quality.

9-7-8. Upgrade

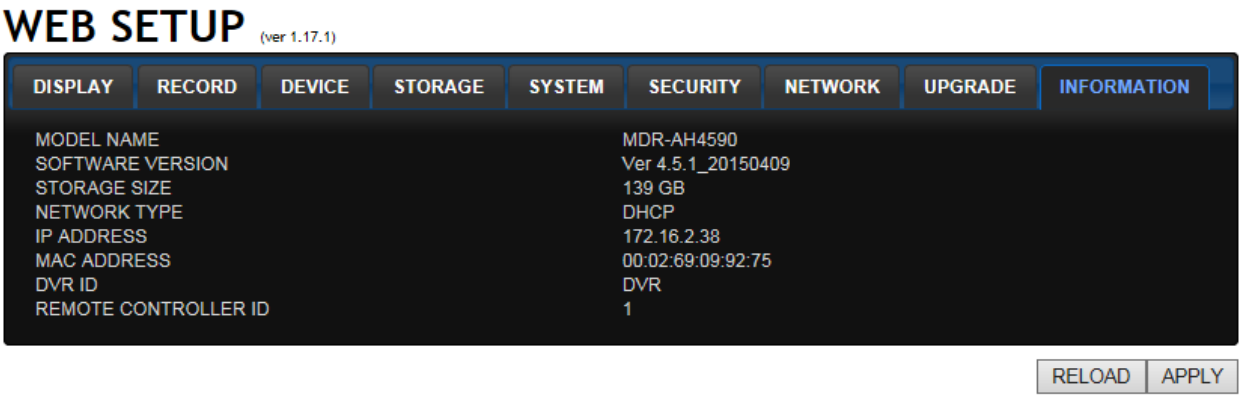


Shows the current Firmware version installed on DVR.

- **Browse:** Select BROWSE to locate the firmware file.
- **Upgrade:** Select UPGRADE to upgrade the firmware of the DVR.

Please refer to page 59 for the Remote Upgrade.

9-7-9. Information



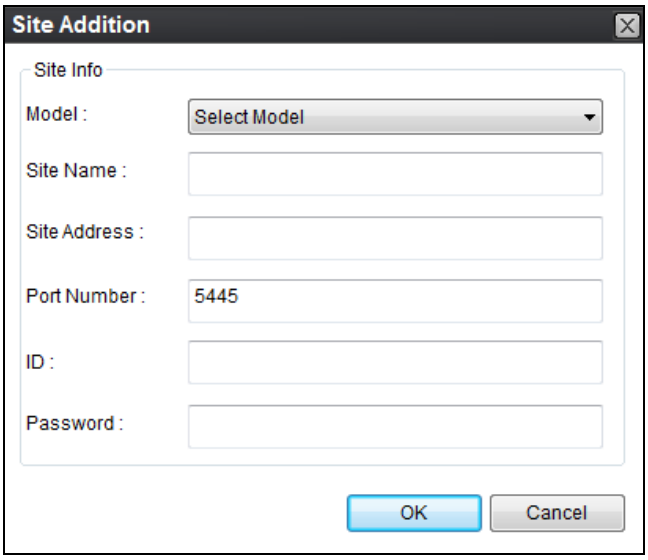
Display general information about the DVR.

9-8. Operation

9-8-1. Addition, Delete, and modify of DVR sites

9-8-1-1. Addition of sites

1. Click SITE ADDITION button. And then the following window will be displayed as below.



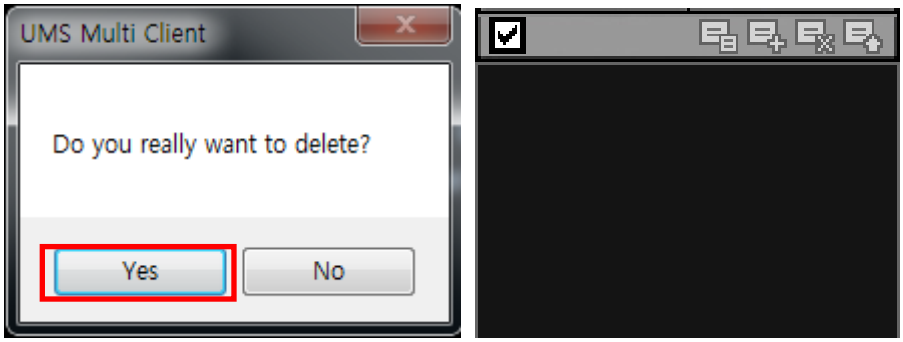
- **Model:** User has to select surely a suitable type.
  SDVR series, H series DVR
  N series DVR, HD DVR
  IP Camera
- **Site Name:** Input a name that properly describes a site.
- IP Address: Input IP address (Public IP address of a router that DVR is connected.) or Domain name that is registered at www.okddns.com (for Korea), www.ddnscenter.com (for USA) or www.bestddns.com (for other area including EU)
- **Port Number:** Input port number of DVR**(Default Port Number is "5445")**
- **ID:** Input ID of DVR.**(Default ID is "admin")**
- **Password:** Input network password of DVR**(Default Password is "1111")**

2. Click OK button. And then the registered site is added on the directory window.

9-8-1-2. Delete of sites

1. Select the site/sites to delete from the directory window.

2. Click SITE DELETE button. And then the selected site/sites is/are deleted.

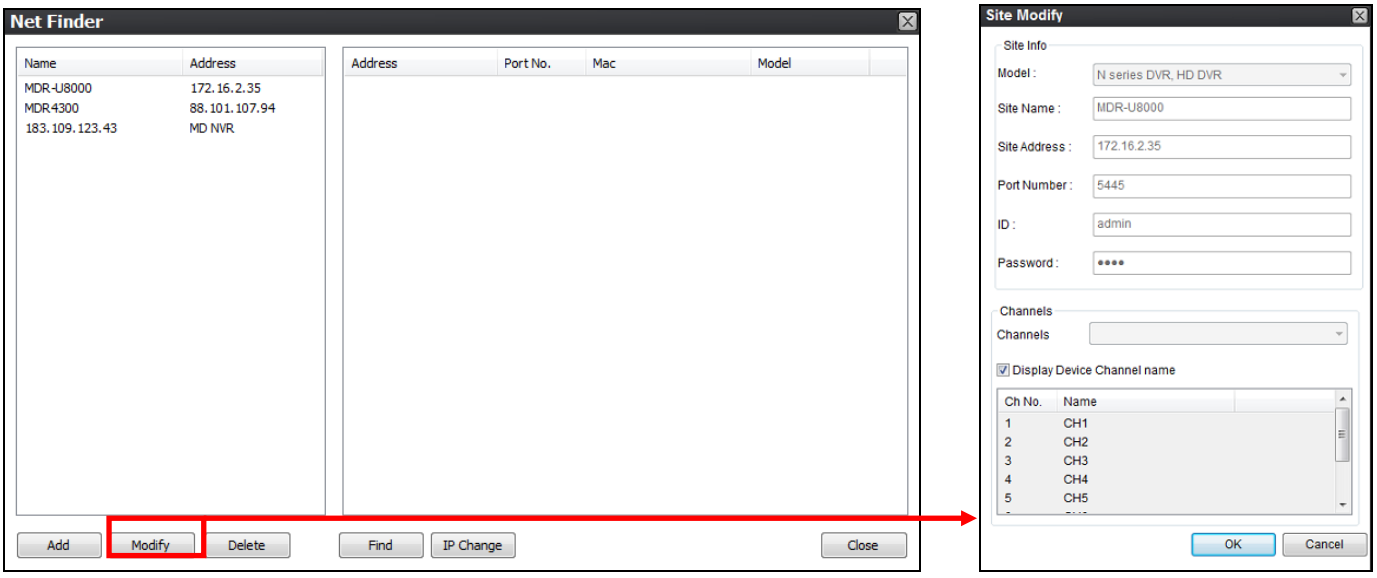


9-8-1-3. Modify of sites

1. Select the site/sites to modify from the directory window.

2. Click NET FINDER button. And then the following window displays.

3. Click MODIFY button. And then the modified information is applied.



9-8-2. Connect and Disconnect

9-8-2-1. Connect

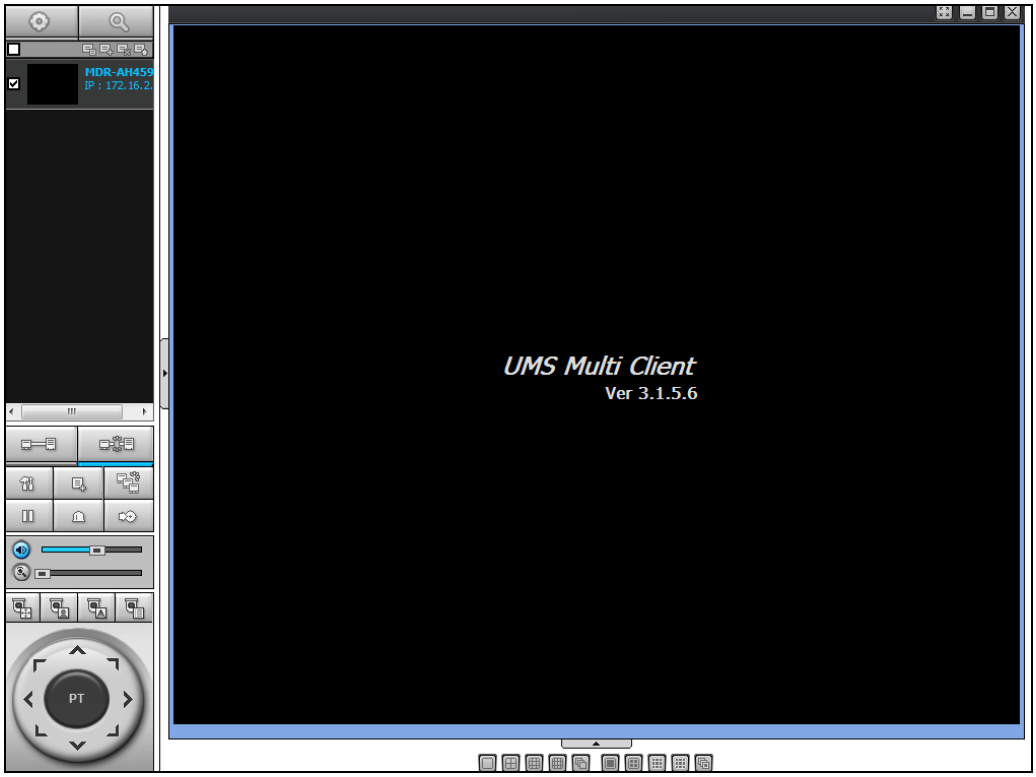
1. Select site/sites to connect from the directory window.

2. Click CONNECT button, and then site/sites displays/display as connected.

9-8-2-2. Disconnect

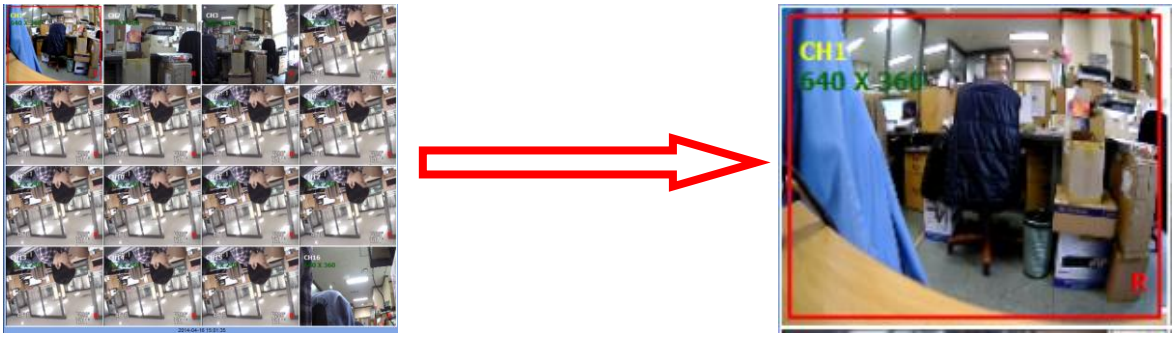
1. Select site/sites to disconnect from the directory window.

2. Click DISCONNECT button, and then selected site/sites disconnected.

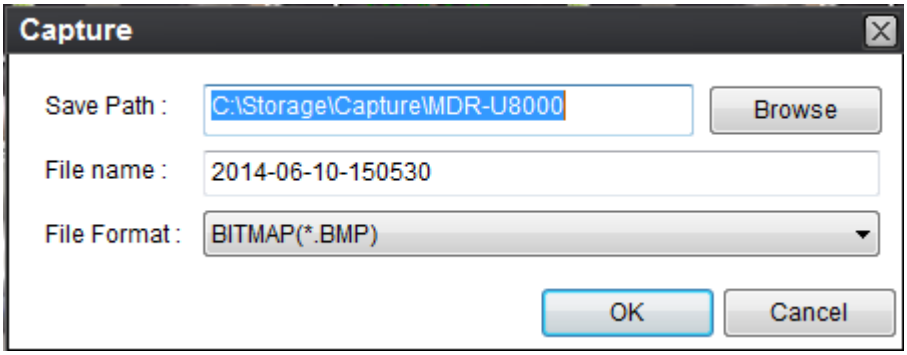


9-8-3. Still-image capture during Live

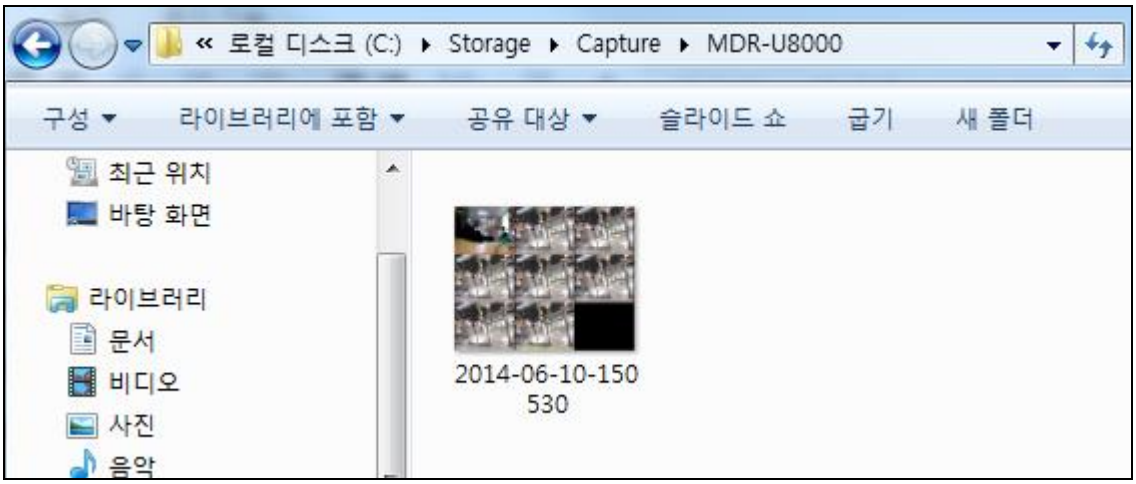
1. Double-click a channel to capture from the display screen. (Otherwise all channels will be captured.).



2. Click CAPTURE button. And then a Capture window displays.



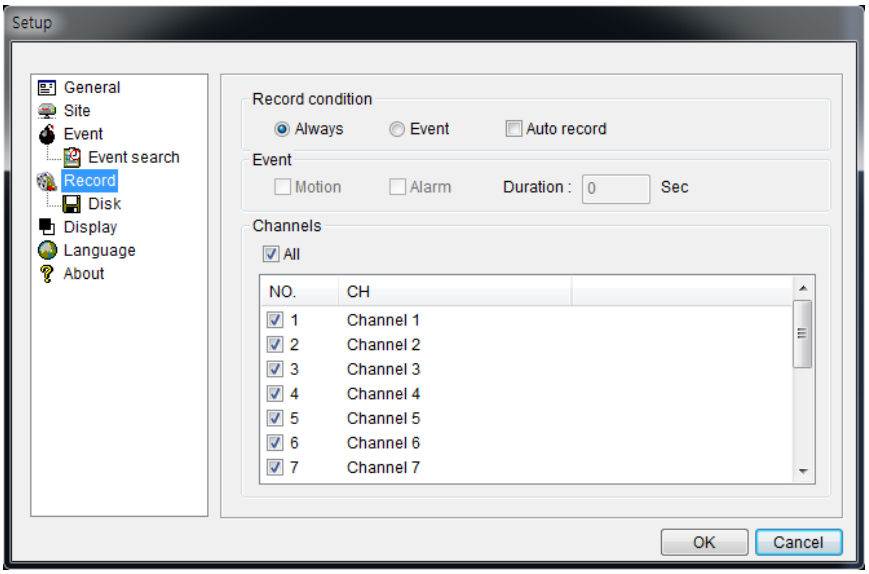
3. Set Save path, File Name, and File Format. And then click OK button.
4. Still image is saved as set in Capture window.



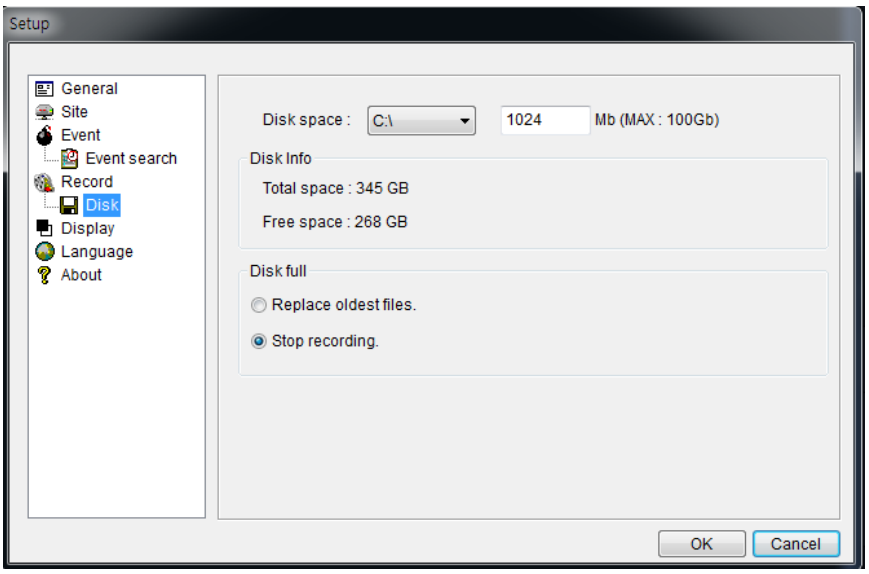
9-8-4. Recording Video on local PC during Live

1. Click SETUP button. And then a setup window display.

2. Select Record and set the values.

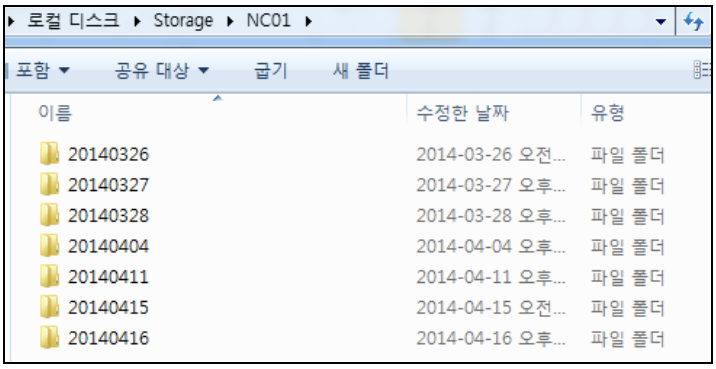


3. Select Disk and set the values.



4. Click RECORD ON button. And the color of button is changed.

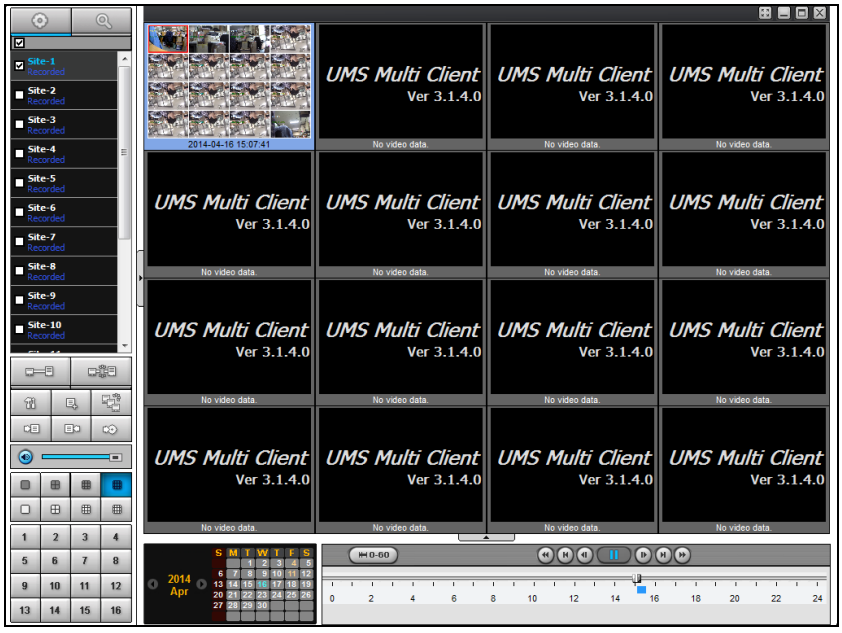
5. Live video data is recorded as set in Record and Disk setup. These video data can be searched and play-backed with Local Playback.



9-8-5. Local Playback and Remote Playback

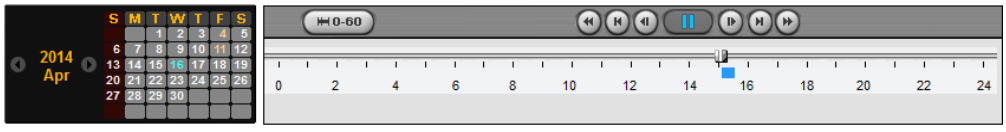
9-8-5-1. Playback of recorded video on local PC

1. Click LOCAL PLAYBACK button. And then Playback Window display over Live Window.

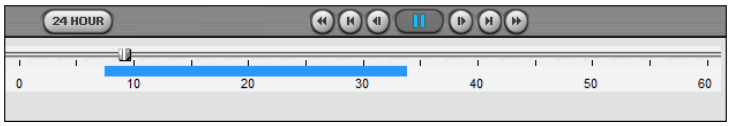


2. Select site/sites to connect from the directory window.

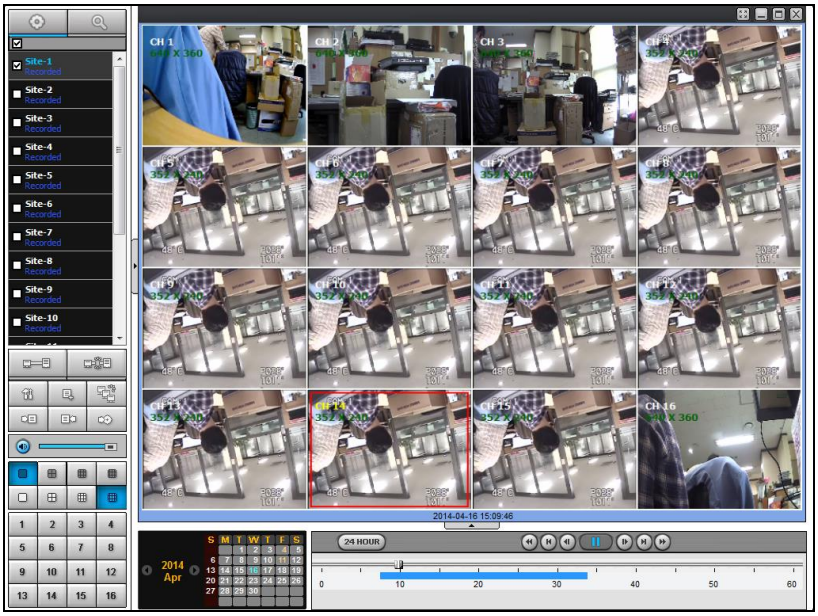
3. Click CONNECT button. And then Green bar displays on Search calendar and slide window.



4. Move scroll bar on where there is video data and Play button.

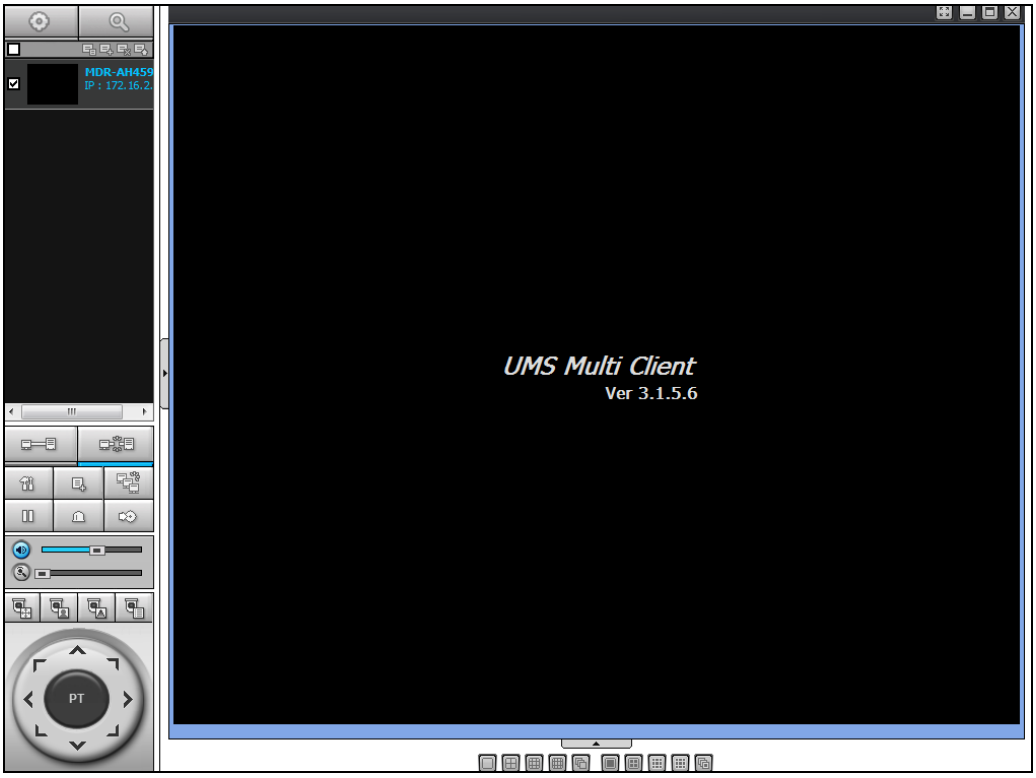


5. Video data that is recorded on local PC will be play-backed.



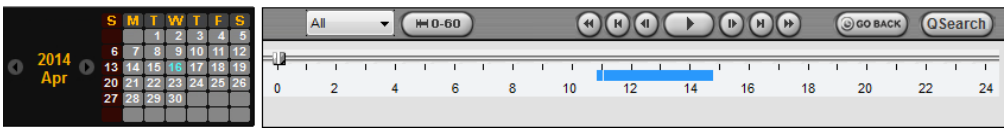
9-8-5-2. Playback of recorded video on remote DVR

1. Click REMOTE PLAYBACK button. And then Playback Window display over Live Window.

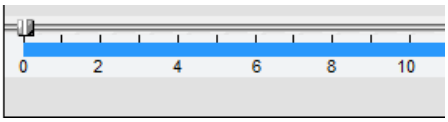


2. Select site to connect from the directory window.

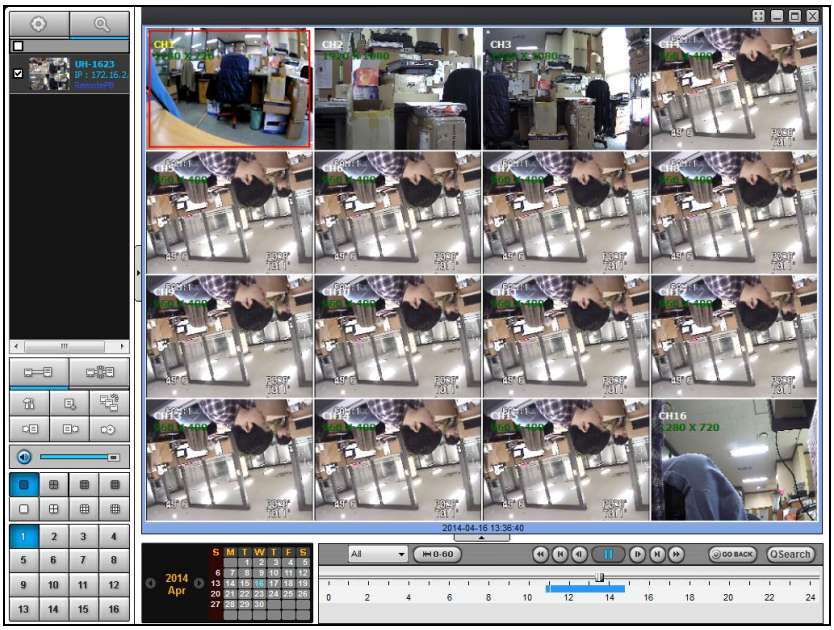
3. Click CONNECT button. And then Green bar displays on Search calendar and slide window.



4. Move scroll bar on where there is video data and Play button.



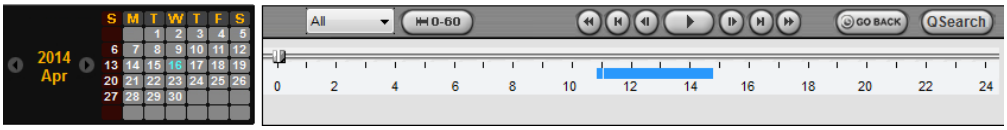
5. Video data that is recorded on a remote DVR is play-backed.



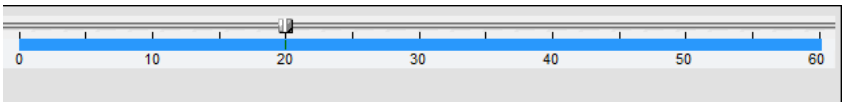
9-8-6. AVI Backup during playback

You can back up the recorded videos in AVI format during playback.

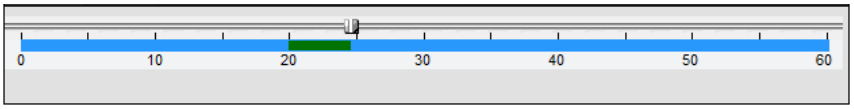
1. Double-click the target channel to backup.
2. Select the beginning time by using the search calendar and slide bar.



3. Click MARK IN button, when the scale of the timeline is located on the target time as the beginning time of backup.



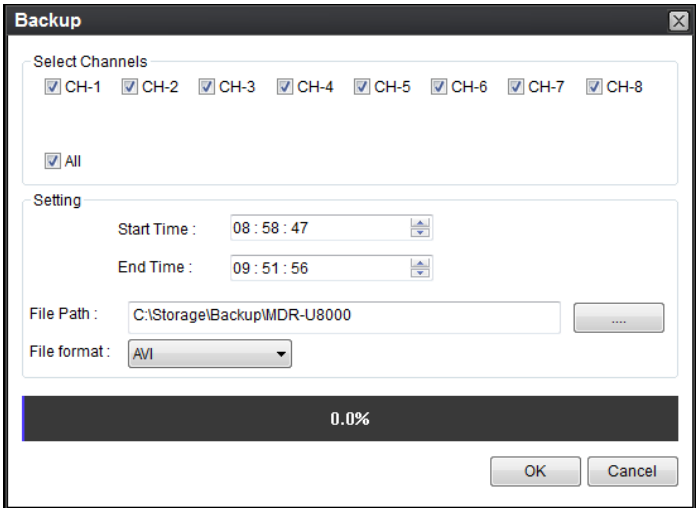
4. Set the ending time on the blue timeline by dragging the scale on the target time as the ending time of backup and clicking MARK OUT button. Then, color of the timeline between the beginning time and ending time will be changed into dark Green.

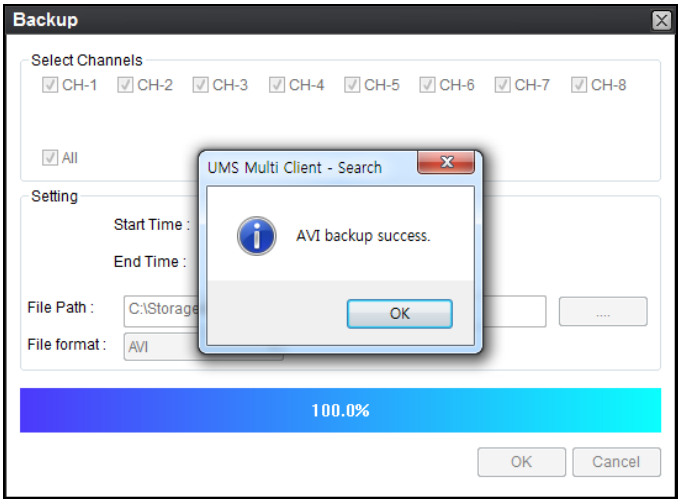


5. Click BACKUP. And then the window appears as below.

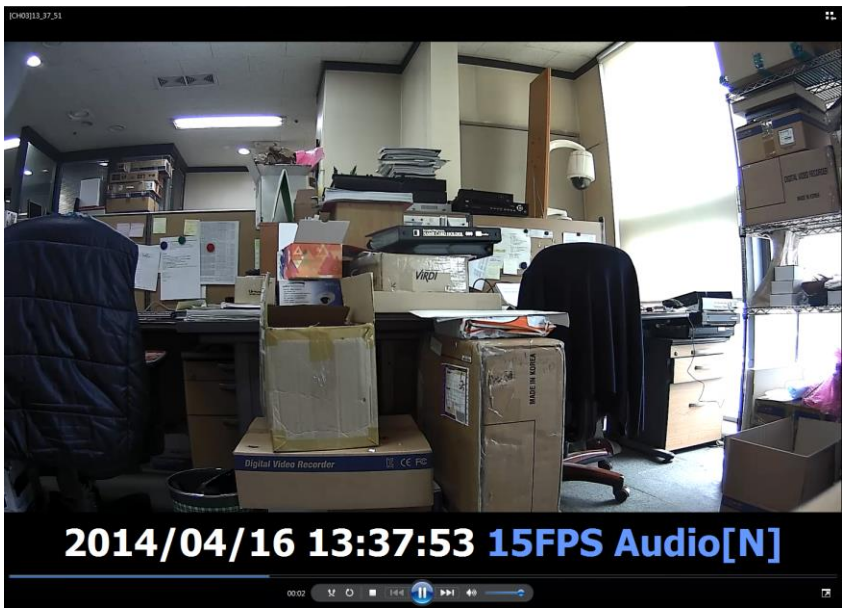
6. You can also set the beginning time and ending time on this window. After selecting a channel for backup,

click the OK button. The backup will begin.





7. AVI video data is recorded as set in AVI Backup window. AVI format video can be played back by Window Media Player™ or other media player that is compatible with AVI format video.



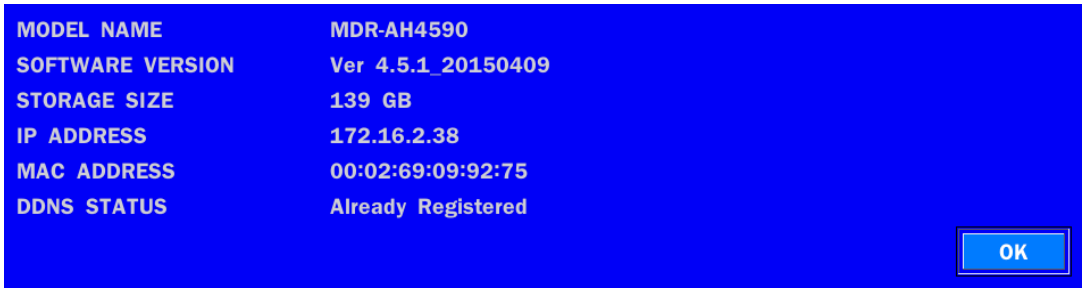
Notice

When it does a backup with NSF format, user can do a playback using the DVR player. The DVR player is installed with the S/W in user's PC.

10. Network – By an web-browser viewer

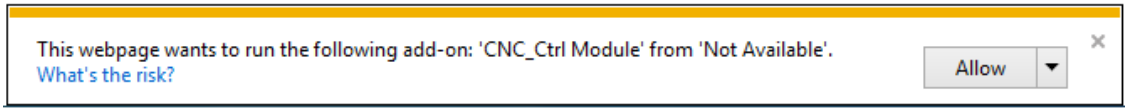
The DVR provides a live remote monitoring feature by web-browser viewer. (NOTE: Web-Brower is only available for Internet Explorer)

1. Check the IP address of the DVR from SETUP>SYSTEM>DESCRIPTION>IP ADDRESS.



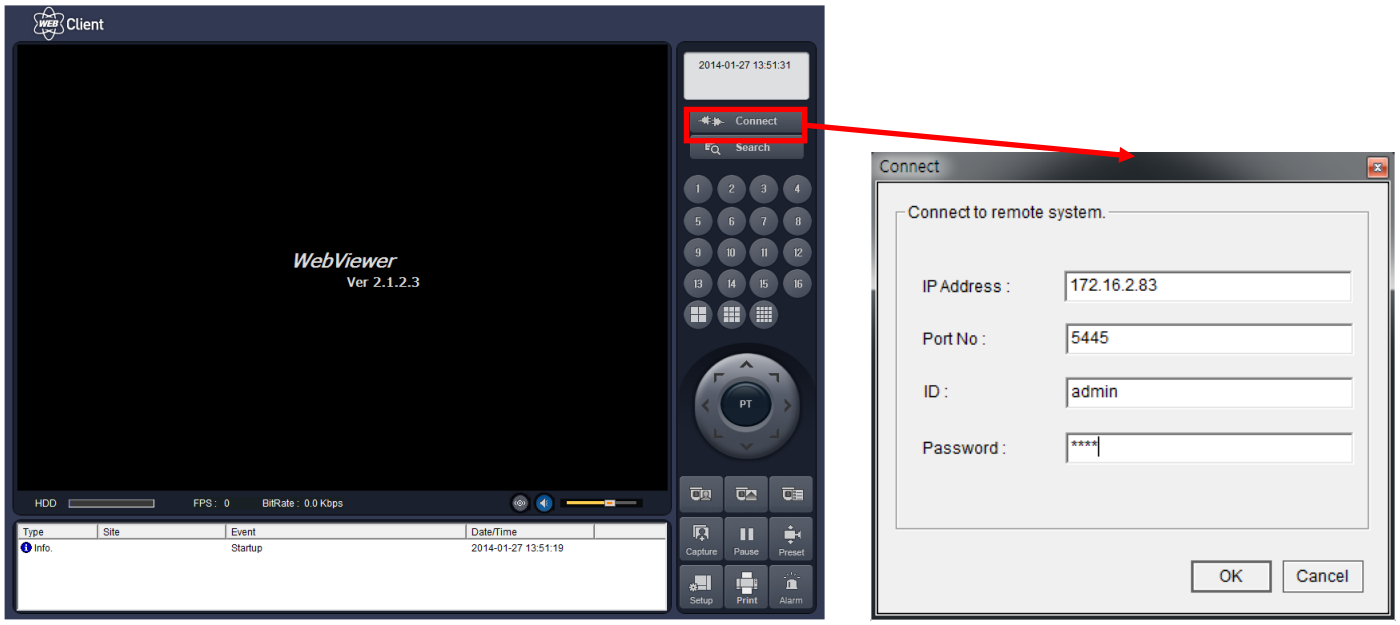
2. Input the IP address or Domain name address that you pre-registered on www.bestddns.com on the address field and press “Go”. Please pre-register on www.okddns.com in Korea and on www.ddnscenter.com in USA.

3. Click this bar. Then the dialog box is displayed.



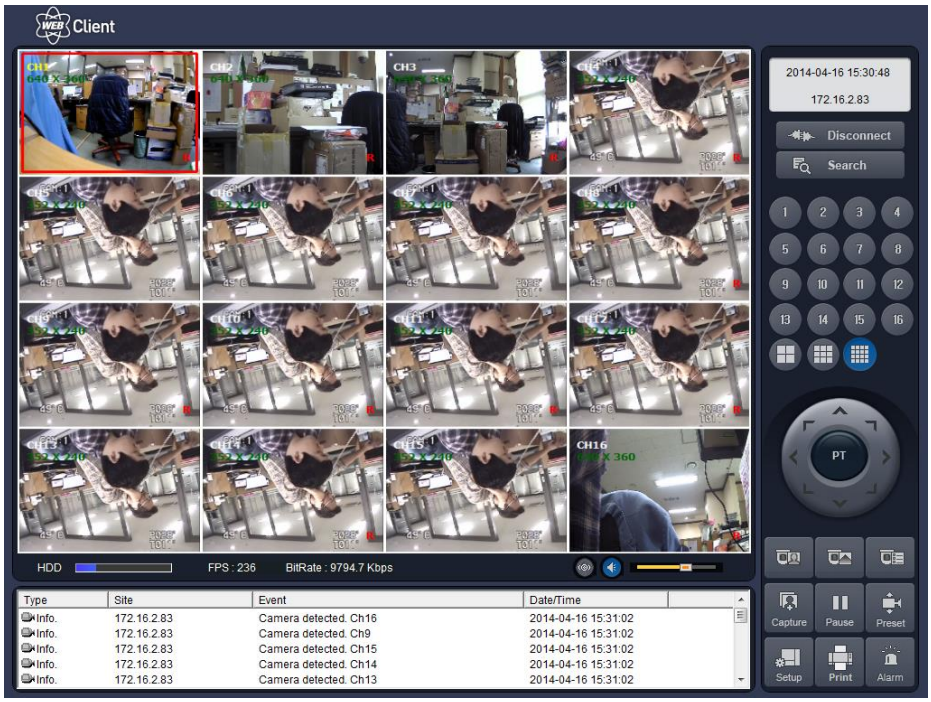
4. Click “Install” to download ActiveX control.

5. Web Browser Viewer is displayed as bellow.
6. Click CONNECT button on the Left upper corner of web-viewer. Then “Connect” dialog is displayed. Enter IP address (or Domain name address that you pre-registered on www.bestddns.com, www.okddns.com or www.ddnscenter.com, Port number and Password and click “Connect”



- **IP address**: Input IP address of the DVR from SETUP>SYSTEM>DESCRIPTION>IP ADDRESS or Domain name address that you pre-registered on www.bestddns.com, www.okddns.com or www.ddnscenter.com,
- **Port No**: Input Port number (The number is set on SETUP>NETWORK>PORT.)
- **ID**: Input ID of DVR.
- **Password**: Input network password of DVR.
  (The number is set on SETUP>SYSTEM>NETWORK PASSWORD.)

7. Then the cameras connected to the DVR are displayed on the screen.
8. Use mouse scroll to digitally zoom in and out from a single channel display.

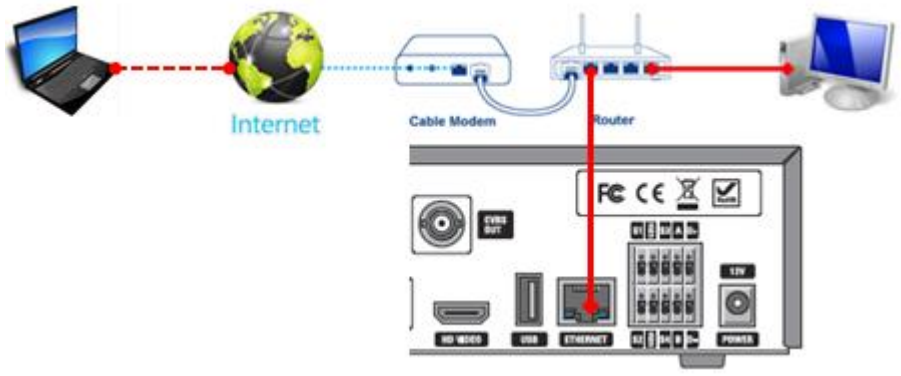


APPENDIX: How to connect network

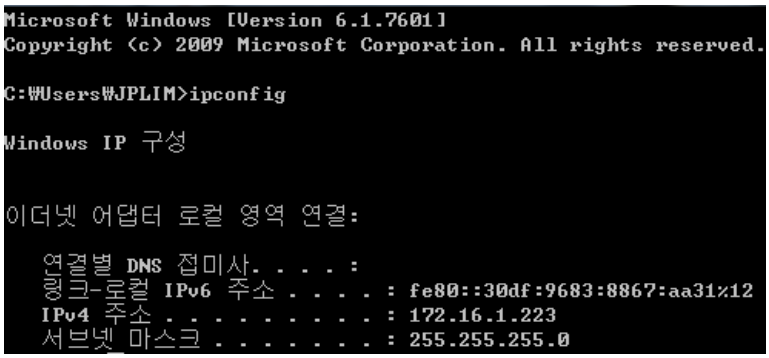
A. How to set IP address of the DVR and open TCP port of the router?

The port forwarding is dependent on the brand and model of the router. The port forwarding is required to allow access to the DVR beyond a router.

Connect network cable between DVR and Router or ADSL modem.



1. Default network setting on DVR are
   - Port: 5445
   - WEB Port : 80
   - Network : DHCP
2. From PC connected in the same Router, find IP address, Gateway, and Subnet mask by IPCONFIG command in command prompt.

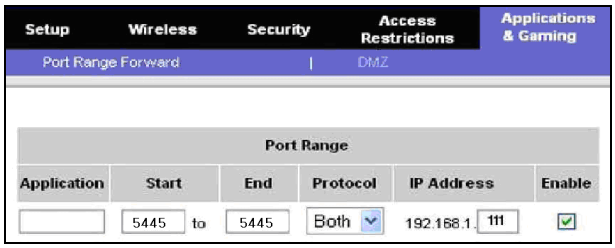

Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.
C:\Users\JPLIM>ipconfig
Windows IP 구성
이더넷 어댑터 로컬 영역 연결:
연결별 DNS 접미사. . . . :
링크-로컬 IPv6 주소 . . . . : fe80::30df:9683:8867:aa31%12
IPv4 주소 . . . . . : 172.16.1.223
서브넷 마스크 . . . . . : 255.255.255.0

3. But if IP is something else like 192.168.XXX.XXX., you should change IP address, Subnet, Gateway on the DVR. Go to SETUP>NETWORK>LAN of the DVR and change the IP settings to be like IP: 192.168.XXX.XXX and Gateway: 192.168.XXX.XXX. (Refer to the user's manual of Router.)

Open your web browser. Enter the router IP address in the address bar (The router IP address are different with the brand and model.), click GO.

4. Enter the user name and password (**admin** is default) and press the **OK** button.

5. Select the Port Range Forwarding tab.



6. Enter the each field.
   i. Application: Enter a description of the DVR (Example: store1)
   ii. Start: Enter the first number of the port you need to port forward (Example: 5445)
   iii. End: Enter the last number of the port you need to port forward (Example: 5445)
   iv. Protocol: Select Both.
   v. IP address: Enter the IP address of the DVR on SETUP>NETWORK>LAN>IP ADDRESS.
   vi. Enable: Check the enable box.
7. Select the Save settings button located on the bottom of the window. Then Port forwarding is finished.

Network access beyond a router

In order to access the DVR remotely beyond a router (firewall), the user must open TCP port for command level, live channels and storage channels. User need to open 2ports numbers on the router; the DVR port number 5445 and the WEB port number 80.

If this port is not opened properly, user can not access DVR beyond a router.

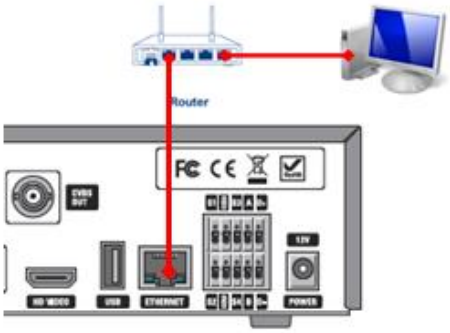
You can learn how to port forward many kinds of Routers from the bellow site.

http://www.portforward.com/english/routers/port_forwarding/routerindex.htm

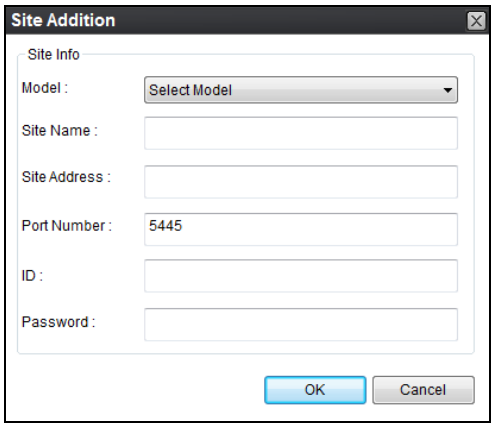
B. How to access DVR from Remote PC?

LAN Connection – Using a switching hub

Connect to the system, using a hub (Switching hub) and an Ethernet cable (10BASE-T/100BASE-TX CAT 5 LAN cable)



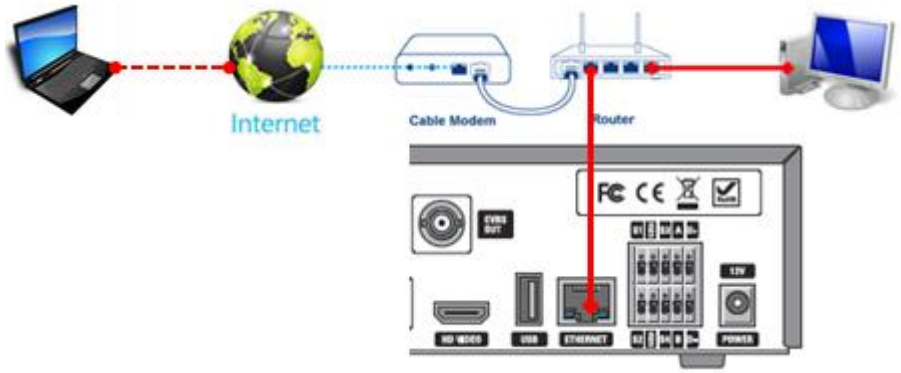
1. Run the pre-install the network client software on the supplied CD. (Refer to Chapter 6. Network access using the Exclusive network viewer)
2. Check the IP address from SETUP>SYSTEM>DESCRIPTION of DVR.
3. Run network client software and click button.



4. Input Site Name, Site Address (IP address), Port No., and Password on the connect window. And click OK. Then, press button after checking the left check box.

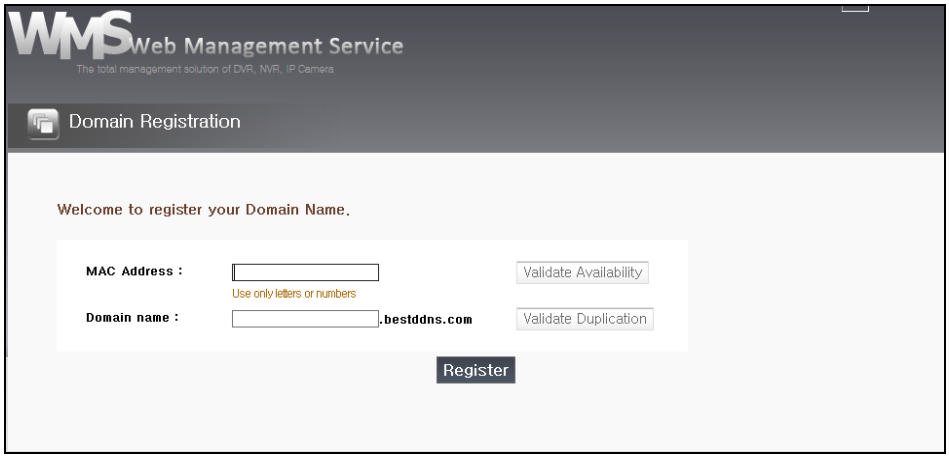
Internet (ADSL) Connection using DDNS

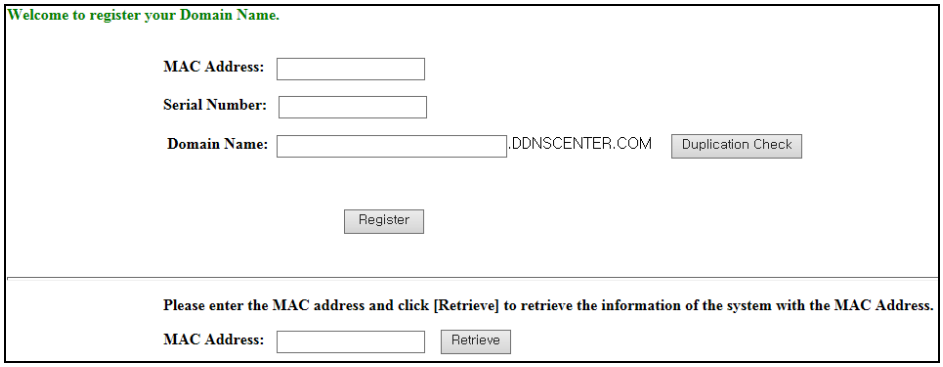
Dynamic Domain Name System (DDNS) allows a domain name to be constantly synchronized with a dynamic IP address. A current dynamic IP address is being associated with a static domain name.



1. Go to SETUP>NETWORK. Set NETWORK TYPE as DHCP and DDNS SERVER as ON. And select one type among bestddns.com, okddns.com and ddnscenter.com after setting to DDNS1.
2. Go to Setup menu of Router and open TCP port 5445 and 80 using Port Forwarding. (Refer to A. How to set IP address of the DVR and open TCP port of the router?)

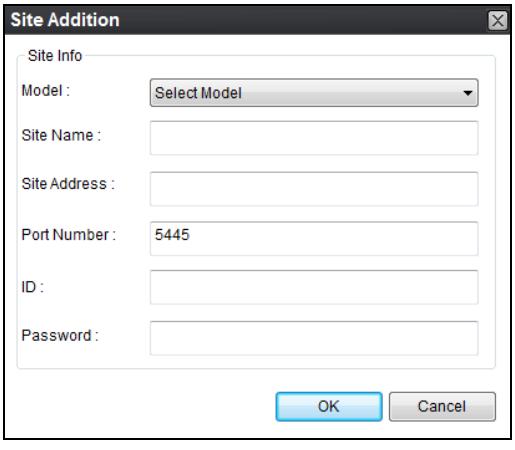
3. Confirm the Mac address and Serial No. from the label of the rear panel of the DVR.
4. Open the web browser and log on http://www.bestddns.com. Please log on http://www.okddns.com in Korea and http://www.ddnscenter.com in USA.





- MAC Address: Input the Mac address (EX. 0002690XXXXX) without any space.
- Serial Number: Input the Serial No. (EX. U80001100XXX.) without any space.

5. Domain Name: Input Domain Name for your DVR system
6. Click the DUPLICATION CHECK button to see if the domain name is available.
7. If you see the screen “You can use the Domain name you entered” then click RETURN and click REGISTER button to complete the registration.
8. Run the pre-install the network client software on the supplied CD.
9. Click button and add the DVR as necessary.



- **Model**: Select one type surely among SDVR series, H DVR series DVR / N series DVR, HD DVR / IP Camera.
- **Site Name**: Input the name of the DVR.
- **Site Address**: Input the Domain Name that is registered on http://www.bestddns.com. Please log on http://www.okddns.com in Korea and http://www.ddnscenter.com in USA.
- **Port Number**: Input the DVR port number.
- **ID**: Input ID of DVR
- **Password**: Input the network password.

10. Press button after checking the left check box of the site that you will access.

C. How to access DVR with iPhone?

Notice

Data Usage applied without Wi-Fi connection. Please check with your Phone Carrier.

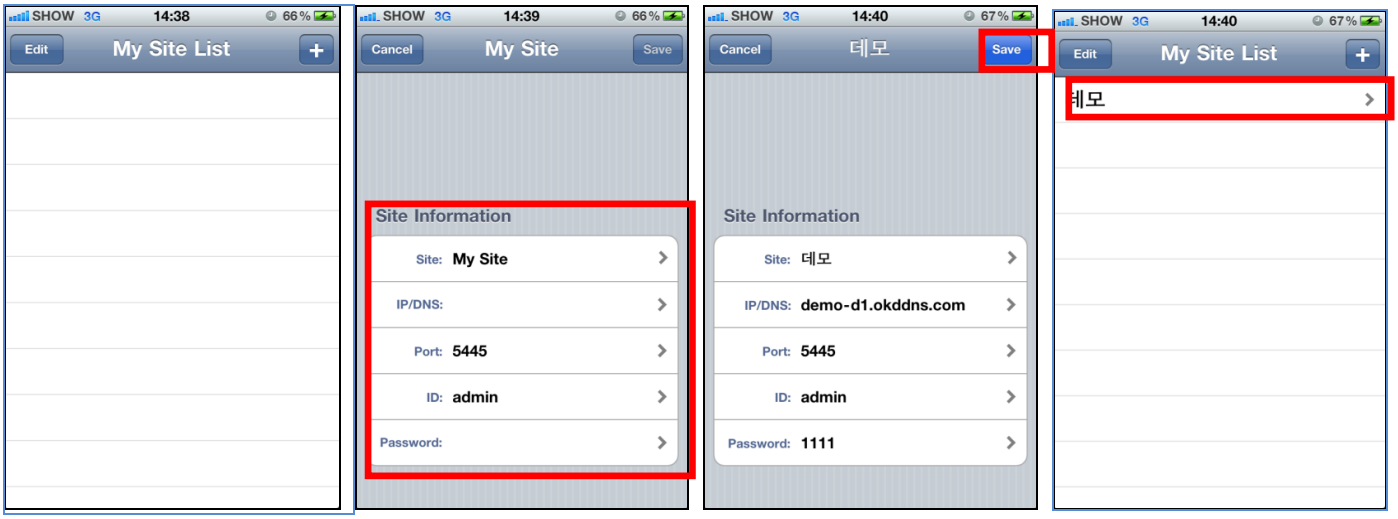
App Viewer for iPhone

1. Enter the Apple App Store.

2. Search “MD Viewer” in the App Store.

LIVE

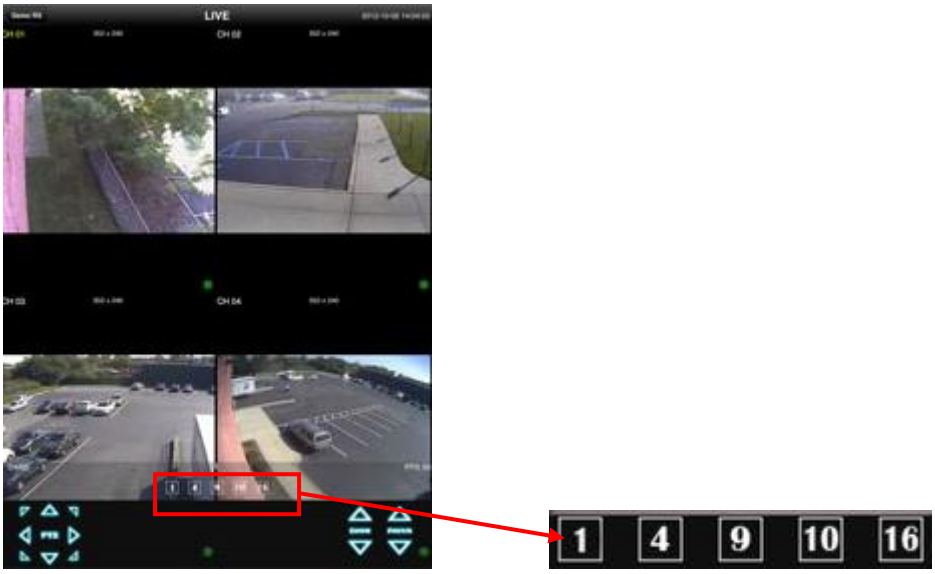
1. Open the installed “MD Viewer” App and click button to add a remote device.
2. Enter the site name, IP or DDNS address, Network Port number (default 5445), ID(default admin) and Password (default 1111). Then, click “Save” button.



* Note: Network Port and Web Port must be forwarded before adding a new site.

3. Select a registered device and select LIVE. Then click “CONNECT” button.
4. The app will display the selected channel(s). Double tap the channel screen to switch 1 channel display to 4, 8, 10, 16 channels split display depending on the DVR.

5. To select the display mode(1, 4, 9, 10 or 16 split display), tap the arrow menus button



6. Drag and drop channels

   Touch and drag one channel to the other channel to swap the channel location. To swap the channel, drag a channel to another channel.

7. Digital Zoom In-Out

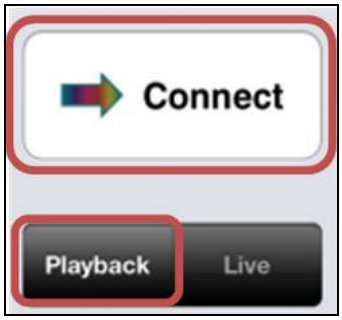
   Double tap on the desired channel to view in 1channel mode. Then use the iPhone zoom feature using two fingers to pinch the screen to zoom in or out on the video image. User can also move the zoomed image around by touching the desired spot and dragging the zoom image.

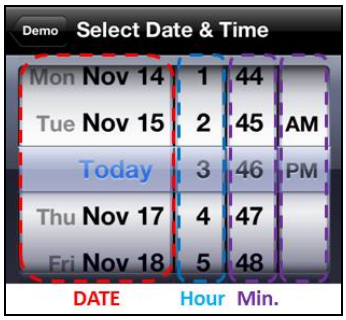
PTZ Control

To control the PTZ functions of the camera, tap the menu button. Then PTZ menu icons will display. using the PTZ icon on the screen, control PTZF control.

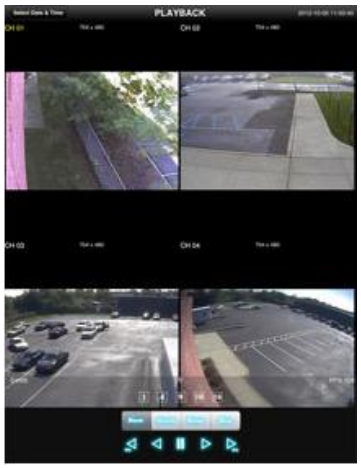
Playback

1. Select Mode as ‘Playback’ Playback and click ‘CONNECT’ button. Then select Date & Time and click PLAY button.





2. The app will display the selected channel(s). Double tap the channel screen to switch 1 channel display to 4, 8, 10, 16 channels split display depending on the DVR.



3. Tap the menu button. Then Playback menu icons will display.

D. How to access DVR with Android?

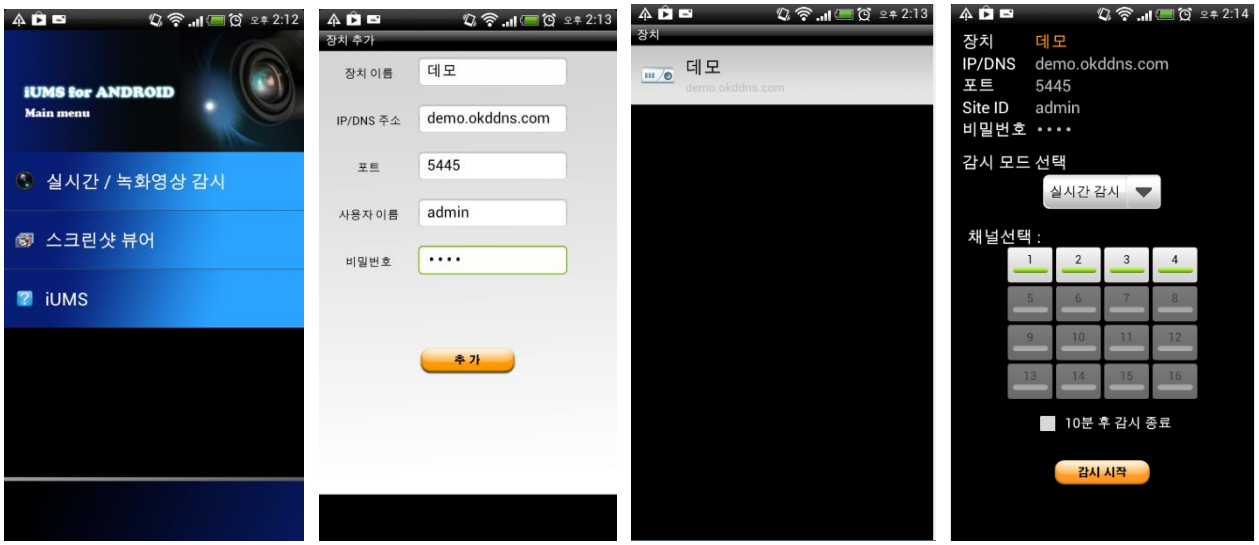
App Viewer for Android Phone

1. Enter Google Play Store.

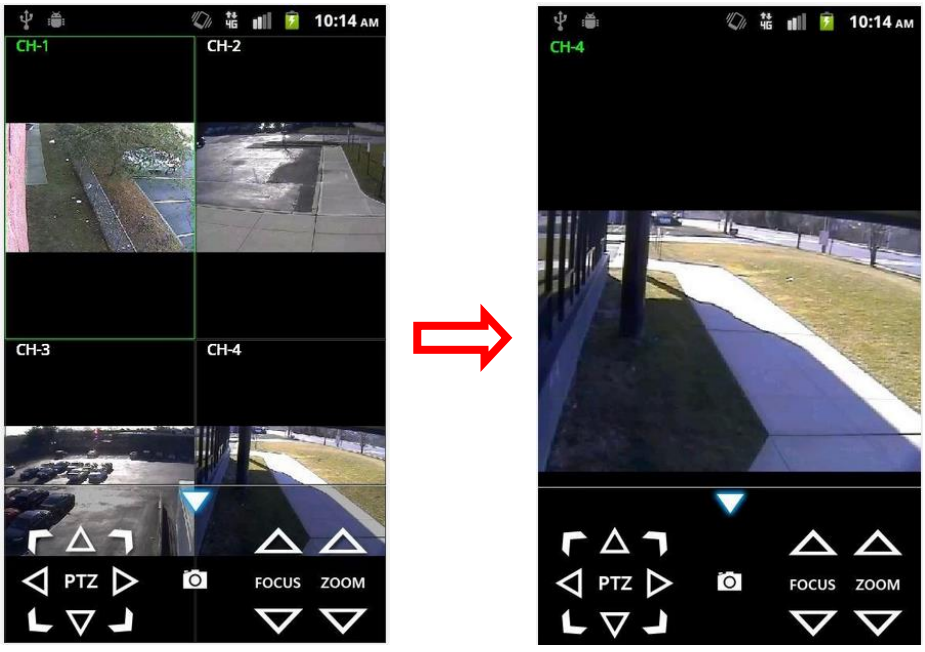
2. Search “MD Viewer” in the Android Market and install the “MD Viewer” app.

Live

1. Open the installed “MD Viewer” App and select the Live Preview. Then click the menu button of the phone to add a remote device.
2. Select the registered device and select LIVE VIEW and select up to 4 channels to monitor. Then click START button.



3. The app will display the selected channel(s). Double tap the channel screen to switch 1 channel display to 4 channels split display.



Playback

1. Select the registered device and select PLAYBACK and select up to 4 channels to search. Then click START button.
2. The app will display the selected channel(s). Double tap the channel screen to switch 1 channel display to 4 channels split display.

PTZ Control

To control the PTZ function of the camera, tap the channel screen, then the channel name will be highlighted in Yellow. Using the PTZ menu icons on the screen, control PTZF.